

“Addressing the Gender Blindness of Decommodification”

Adapting decommodification to the paradox of female commodification

Master thesis

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ABSTRACT

This thesis seeks to resolve the gender blindness of Esping-Andersen's decommodification index and examine which socioeconomic and political forces that explain decommodification when female decommodification is accounted for. To answer these questions a multiple regression analysis is utilized with the same eighteen OECD countries as used by Esping-Andersen, but with a time series of 1971-2002.

Documented research on welfare policies and the decommodification of women has been plagued by a limited time perspective and theory generating work using descriptive statistics. Critique of the decommodification index can be divided into four main categories: limited regime typology with only three welfare regime types, operational validity, replicability and its gender blindness. By gender blindness they mean the index's lack of perspective when it comes to female decommodification. In this thesis the latter three problems are addressed.

The field of comparative welfare state research has a long tradition of trying to understand what explains welfare regimes' development. The problem, before Esping-Andersen's work and to a lesser degree after, has been that contrasting conclusions have been drawn on what explains it based on data operationalization and methods used. There is however a strong consensus on the positive effect from left leaning political parties on decommodification and this still holds true for my findings.

The central new findings of this thesis is that family welfare policies are the most effective policy tools for keeping women employed. The paradox is that by increasing the proportion of active female labor they also qualify for higher levels of decommodification in the form of replacement rates. My improved decommodification index incorporates these policies and by doing so alleviate the critique of gender blindness. Furthermore what explain decommodification, and especially family welfare policies, are female politicians independent of party loyalties. Implicating that female politicians are the prime example of practicing political self-interests.

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“Deep into that darkness peering, long I stood there, wondering, fearing, doubting, ...”

-Edgar Allan Poe

This quote summarizes the feelings I have had working on this thesis. I’m definitely not the first person to have used that quote in this context, but it is only now I understand its true viability as a description of this kind of work.

First and foremost I would extend my gratefulness to my partner that has been inhumanly patient and supportive while I have at times isolated myself to work on this thesis. Not to mentioning my tendencies to run away from conversations to write when a bright idea popped into my head.

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Part 1

1.1 Introduction

In 1990 *The three worlds of welfare capitalism* (Esping-Andersen 1990) was published and it changed how the field of comparative welfare state research viewed pathways leading to types of welfare regimes and welfare policies' effect on society. The general consensus from this field was that it changed the way one looked at welfare states. Still most found it to be lacking in many areas. The operationalization of decommodification was scrutinized for being over simplistic by many, and gender blind by feminist welfare state scholars. The limitation of only three types of welfare state regimes was also heavily scrutinized along with historical pathways to certain regime types. Nevertheless this work has had a lasting impact on our understanding of welfare regimes and is 25 years later still frequently referenced in scientific articles (Emmenegger, Kvist, Marx & Petersen 2015:5-9).

With this study I aim to revisit the critique of a lacking gender dimension for decommodification. Decommodification, as defined by Esping-Andersen in *The three worlds of welfare capitalism* (1990), is the worker's ability to opt out of work and still retain a certain level of livelihood without depending on the market. The critique of Esping-Andersen's operationalization of the concept that I base my work on, is that it currently measures the generosity of the welfare state and does not take into account the development of a large female workforce and their welfare needs. The effect gender and family specific welfare programs have on this part of the population is ignored in the current index and is something Esping-Andersen (2009) has also recognized.

The research question I will answer is: *How can one identify and incorporate the welfare programs that are key to female decommodification, and what socioeconomic and political forces explain decommodification when this has been taken into account?*

The methods used to answer these questions are divided between the first and second part of the research question. The "how" will be answered with the use of Esping-Andersen's theoretical framework with the inclusion of feminist critique to understand where the original index falters. To add empirical validity to the feminist scholars' arguments I use a multiple regression analysis

for the same eighteen OECD countries as used by Esping-Andersen, but now with a timespan stretching 1971-2002. To my knowledge this has not been previously done for this timespan and with my specific angle on solving the decommodification index's gender blindness. My goal with this analysis is to create an empirical foundation for a re-specification of decommodification that alleviates the problem of a missing female decommodification dimension in the index, and find a way to measure it in a meaningful way as a new index that rectifies some, if not all of the critique, directed against the established metric of decommodification. The "what" will utilize a multiple regression analysis using time series cross sectional data, with the new index as a dependent variable I will test independent variables used by Esping-Andersen, and other welfare theories for control, to establish what explains changes to my new decommodification index.

The end result for this measure of decommodification will be useful for explaining what political environment, historical legacy and socioeconomic factors that affect the changes to the new decommodification index. By having a stronger operational validity the new index has the potential to also tell us, as an independent variable, what effect an increasing decommodification level has on workers. The relevance of this research for the field of comparative welfare state research and feminist welfare state scholars will be that the end results increase our understanding of what decommodification means in a world with an ever increasing active female workforce. Rather than understanding decommodifying welfare policies as gender blind, this new research will help us understand and empirically test what policies are important for female decommodification. Furthermore it will be theory generating for which socioeconomic and political explanations are the driving forces behind these policies. By applying this new measure one can approach the challenges for the existing welfare regimes today with more precision and certainty.

This thesis is divided into three distinct parts. Part one will answer: *How can one identify and incorporate the welfare programs that are key to female decommodification*, and part two will focus on *what socioeconomic and political forces explain decommodification when this has been taken into account?* Part three of the thesis will summarize the results of both part one and two into an overall conclusion, contribution to the field of welfare research and suggestions for

further research. As with this introduction in part one, part two has its own short introduction to keep each part of this thesis focused on their separate sections of the research question.

To find an answer to the first part of my research question I will first present a broad overview of Esping-Andersen's *The Three Worlds of Welfare Capitalism* (1990). In the rest of chapter 1.2 I look closer at the definition of decommodification followed by critiques and revisions used to define my new index. In chapter 1.3 I reintroduce theories used to form the foundations of hypotheses that will be used to establish what welfare programs are important causes of female decommodification. Chapter 1.3 also consists of a presentation of method used in the form of my analytical approach, results and analysis. In chapter 1.4 I use the results from chapter 1.3 with descriptive statistics, a regression analysis comparing the new decommodification index to the two older indices and a discussion on how the new index is constructed to validate my decommodification index's removal of gender blindfolds.

1.2 Theoretical framework for decommodification

1.2.1 Worlds of Welfare Capitalism and Social Foundations of Postindustrial Economies

In *The Three Worlds of Welfare Capitalism* Esping-Andersen (1990) laid down the foundation for classifying welfare regimes. Previous research had focused on the systems/structuralist approach, the institutional approach and social class with focus on the industrial society's centralizing, mobilizing and market dependent destructive effect on the pre-industrial sources of welfare from the family, guilds and churches. The modern interpretation of democratic institution's effect on the welfare state was focused on pleasing the mean voter and the normative view was that the individual would prefer social redistribution. Social class mobilization in the industrial age as explanatory causes of new types of welfare regimes tries to explain the rise of welfare states on the basis of a presumed collective strategy of different classes out to gain redistribution in their favor (Esping-Andersen 1990:12-18).

Esping-Andersen's new approach had many similarities with Stein Rokkan's (Flora, Kuhnle & Urwin 1999) work with political cleavages formed in the early days of democracies in each country, and the development of these alliances in the post-world war two era. Esping-Andersen demonstrated in his work that the development of three types of welfare regimes was dependent

on historical-political development distinct for each regime type. He showed that the forming of different class coalitions was the main cause of regime type development. Furthermore he argued that each welfare regime type have different economic, political and social consequences (Emmenegger et al. 2015:4-5). In his work he categorized welfare regimes based on this theory by defining two indices operationalization of Marx's preliminary work on the worker's plight in the form of the decommodification and stratification index (Marx 1954-1956). By identifying indicators that represents welfare policies reflecting different political ideologies for welfare regimes, he empirically categorized three different regime types. The Social democratic regime focused on state and universal welfare, Conservative with its focus on family with the state as a subsidiary and Liberal with a market and individualist approach to stimulate the dependence on the market. These classifications are based the decommodification and stratification indices and the empirical clustering of the individual countries in 1980.

The different regime types are demonstrated to be caused by these historical-political developments and defined by the following welfare policies (Esping-Andersen 1990: 26-32):

Social Democratic welfare regime consist of a political alliance between a strong working class and well-organized farmers and welfare policies to satisfy a growing middle class in the post-world war two era, but it's also dependent on a weak bourgeoisie so not to create a foundation for alternative alliances between classes. The main political driving force for this kind of development is strong left-wing parties. Typical for this regime type is said to be a universal welfare system and equal social rights for all citizens. The welfare policies are extended to the new middle class with policies adapted to satisfy the expectations of this class on a universal level so as not to generate a political dualism between the two classes. By securing equal opportunity and rights for all individuals at the standard of the middle class, the social democratic welfare regime minimizes the political friction between class cleavages in society. Furthermore the regime is committed to full employment. Because of the high cost of this type of universal welfare state there is a need to maximize tax revenues with high levels of income tax.

The Liberal welfare regime type is dependent on a class coalition between a strong bourgeoisie and the middle class with a weak state, few or unorganized farmers to develop minimal and individual welfare policies that is dependent on the market instead of the state. To make this

feasible the working class is fragmented and weak, but not necessarily few in numbers. Welfare policies are said to be mostly directed towards low income groups and are on a minimal level to stimulate dependence on the market rather than the state. Public welfare recipients are socially stigmatized and the majority relies on private market regulated solutions for a higher level of welfare subsidies rather than state solutions. As a consequence politics becomes polarized between the market and state dependent groups.

The Conservative welfare regime is dependent on a historical middle class loyalty to the state. This is developed by conservative political forces over time with generous policies aimed to create middle class loyalties. Usually these conservative values are fostered by the Catholic Church that fuels the conservative values of family as a source of security and welfare. The dependence on a single family breadwinner as the redistributor and the state as a subsidiary is the key identifying factors for this type of regime. Social rights and benefits are based on social status and class and the state's welfare policies are only a subsidiary if the family unit cannot provide for themselves as a whole.

To quantify these theoretical definitions they were divided into two indices by Esping-Andersen, decommodification and stratification. Decommodification measures welfare policies in the form of pension benefits, sick pay, unemployment benefits and population coverage for these programs¹. Stratification measures levels of conservative, social democratic and liberal stratification. The underlying indicators are divided between the regime types and scored in the same fashion as decommodification. The indicators measure corporatism in the form of public pension schemes, etatism as expenditure on pensions for government employees as a percentage of GDP, means-tested poor relief as a percentage of total public social expenditure, private pensions as a percentage of total pensions, private health spending as a percentage of total health spending, average universalism as an average of sick pay, unemployment and pension coverage, and average benefit equality as average difference between minimum and maximum social benefits (Esping-Andersen 1990: 68). By using the stratification index Esping-Andersen

¹ In section 1.2.2-1.2.3 this is elaborated on.

classified empirically welfare state stratification clustering by measuring how states redistributes resources and created an index to understand better what consequences they have for social divides in different types of welfare regimes (Esping-Andersen 1990: 58-73).

His later work to address critique against the regime clustering reexamined his work with a focus on de-familiazation. The research identifies from which dominant source the individual receives welfare divided between family, market and state. This specifies the clustering of different welfare regimes and their distinct differences are strengthened (Esping-Andersen 1999). In table one I present an overview of the three regime types and Esping-Andersen's classification criteria's.

Table 1: Generalized overview of Esping-Andersen's three indices and regime classification

	Liberal	Social democratic	Conservative
Roles of:			
Family	Marginal	Marginal	Central
Market	Central	Marginal	Marginal
State	Marginal	Central	Subsidiary
Welfare state:			
Dominating mode of solidarity	Individual	Universal	Kindred Corporatism Etatism
Dominating locus of solidarity	Market	State	Family
Degree of de commodification	Minimal	Maximum	High (for family breadwinner)

Source: Esping-Andersen (1999:85)

1.2.2 Decommodification

The established theoretical framework prior to Esping-Andersen's work was focused on rights and grants bestowed upon the masses by the states as a response to demands from different actors. Esping-Andersen's new approach and later refinements (Esping-Andersen 1990, 1999) focused on rights in the form of decommodification, stratification and de-familialization. The research goal for this thesis is to look closer at the concept of decommodification and to alleviate the feminist welfare scholars' critique of what they call gender blindness (Orloff 1993; O'Connor 1996; Sainsbury 1996). I will here look closer at Esping-Andersen's conceptualization of decommodification to understand what it means and what it intended to represent.

To understand the conceptualization of decommodification by Esping-Andersen one must look at the origins of the concept. Historically the origin of the term derives from Marx's work on the

plight of the working class and how it was affected by the capitalist economy (Marx 1954-1956). By limiting the potential of working class power by hindering possibilities of unions forming and other forms of political movements, commodified labor becomes dependent on selling its labor for sustenance. In states where the working class is allowed to mobilize in the existing electoral system they gain power. Therefore they can potentially change a capitalist economy by gaining electoral power and weaken labor's status as a commodity. Based on this argument Esping-Andersen used this key theoretical framework to conceptualize decommodification as defined in his two conflicting definitions that is the theoretical foundation for the conceptualization used in this thesis:

1. "...citizens can freely, and without potential loss of job, income, or general welfare, opt out of work when they themselves consider it necessary (Esping-Andersen 1990:23). "
2. "decommodification ... refers to the degree to which individuals, or families, can uphold a socially acceptable standard of living independently of market participation (Esping-Andersen 1990:37)."

What does the first definition really conceptualize? "...citizens can freely ... opt out of work" makes it problematic to make a generalization for the whole universe of cases. What might be considered a necessary or sufficient excuse to not show up for work, or just not work, is dependent on culture and type of society. In one society it might be problematic for workers with certain disabilities to actively partake in the workforce, but in another there are laws and regulations to make it possible for them to make an active contribution to society. Where in one case there might be an option to work, will in another case be impossible. In the latter case is this really to be decommodified, when you have no option to work, but are still provided for by the state or the family? In my opinion the answer is no. Decommodification should create an opportunity to opt out of the market, but at the same time create opportunities for work and job security in cases where one's ability to work is limited.

"... when they themselves consider it necessary" sets the criteria that individuals should be able to decide for themselves what is a necessary condition for opting out of work. In real world welfare states this is only allowed to a small degree and only in some cases. To be able to opt out of work

there are regulations and rules to be followed for sick leave, pension and unemployment benefits. In certain limited cases you can find the option to not work based on the individual's own judgment. Self-certification of absence is limited in most countries, and in the Scandinavian cases to a set frequency, within a 12 month period, is used and consecutive days are limited before a doctor's sick-note is required. My understanding of total decommodification is that it is similar to Robert A. Dahl's Polyarchy (Dahl 1956), in as much as it is an ideal end result, but not realistically achievable in the real world. The definition describes in essence what it would take to be a completely decommodified welfare state. In my opinion it is lacking a negative or polarized dimension that an ideal type should have, but on the other hand the operationalization of income replacement in welfare programs as indicators on the index, does represent the possibility of exiting the market without loss of income².

Esping-Andersen specifies in his elaborations of the second conceptualization that decommodification is not the removal of commodified labor, but rather "*the degree to which individuals, or families, can uphold a socially acceptable standard of living independently of market participation*" (Esping-Andersen 1990:37). Huo, Nelson & Stephens in their 2008 paper interpret the second definition into one simple expression: "... *citizens are freed from the market compulsion to work*". Their theoretical argument concludes that Esping-Andersen's operationalization is closest to the first definition and does not capture the second definition. It supports my assumption that the current operationalization of decommodification covers the possibility to exit the labor market. But on the other hand they show that highly decommodified states also have a high degree of workforce participation and therefore also a high degree of decommodifying policies that has a workforce activating effect on the population in the form of employment (Huo et al. 2008:2-3, 12).

So the paradox introduced here that is highly relevant to my research question is: to identify decommodifying policies important for women we need to look for welfare policies that increase female workforce participation. Decommodification in essence means worker's ability to opt out

² See section 1.2.3 for operationalization

by exiting the market and still retain a certain level of livelihood without depending on the market, and not a system that prevents workers from entering the market. Rather it is policies that keep the workforce healthy, motivated and create opportunities for workers. In the case of female decommodification I understand this as the need for women to be employed to qualify for higher replacement rates and pension standards. In other words, women that stay home and take care of their family will not qualify for higher unemployment benefits, sick pay and standard pension rates. Because only employed women can qualify for higher levels of decommodification, the criterion for a successful welfare policy that decommodifies women is that it also creates an opportunity for female employment.

To understand decommodification we also need to understand the meaning of the opposite of the concept. Commodification is the selling of labor as a commodity that in turn has a negative effect on people's rights to make a living outside the market. Karl Marx's (1954-56) analysis stated that the commodification of labor was the root cause of alienation and Marxists believed that only by removing waged labor would there be welfare equality (Esping-Andersen 1990:35-36). In other words in a highly commodified state the workers are dependent on selling their labor to earn wages to buy commodities produced by human labor instead of exchanging services and goods. My understanding of the concept in the context of Esping-Andersen's work and feminist scholars' critique, is that commodification in capitalist welfare states are the workers dependence on the market to sell their labor, but also the need for workers to be commodified to qualify for higher levels of welfare benefits in highly decommodified states

The goal of my research is to create an ideal typology, like Polyarchy (Dahl 1956), for decommodification that incorporates policies that decommodifies the female workforce from the family³ and market. To accomplish this it should not only measure the degree of freedom one has to exit the market, but also the degree of commodification of market entering as a negative value that subtract from the level of decommodification. If a citizen of a state has on paper the possibility to opt out of work, but in reality the family economy is dependent on two incomes to

³ In the case of conservative state where women are dependent on a single male breadwinner

maintain what is thought of as acceptable living standards, then the decommodifying policies do not necessarily create a more decommodified society, but at the same time the higher levels of replacement rates of welfare programs are in most cases dependent on an active workforce. As seen in the operationalization of decommodification in the next section replacement rates are dependent on established income and time spent in employment.

1.2.3 Operationalization of decommodification

Before I dive into the normative discussion and other critiques of decommodification, I want to make it clear how the concept in its current form is constructed (Scruggs & Allan 2006; Esping-Andersen 1990).

To measure this concept Esping-Andersen constructed an index with two underlying levels that together represents a measure of decommodification. Indicators for sickness benefits, pension benefits and unemployment benefits, consisting of underlying aggregate data from welfare programs, represents the second layer that the final decommodification index is built on. These three indicators are all measured with four indicators each representing important traits for each welfare program. These indicators are added together to produce the score for pension benefits, sick pay and unemployment benefits. Pension is measured by 1) minimum pension benefits for the standard production worker earning average wages. This is measured by yearly pension benefits as a percentage of average pay for the average production worker after taxes; 2) standard pension for the average normal worker with the same calculus as used for the first indicator; 3) years employed needed to qualify for standard pension; 4) individual share of pension financing. These indicators are then scored on a scale from one to three based on intervals of the standard deviation and weighted by the percentage of the population older than 65 that is covered by the pension program. Indicators 1 and 2 are then multiplied by 2 based on Esping-Andersen's argument for their greater importance as income replacement than the two subsequent indicators (Esping-Andersen 1990: 54).

A similar method is used for unemployment benefits and sickness cash benefits with four indicators each. 1) Net benefit replacement rates for the first 26 weeks for the average worker as unemployed or sick; 2) weeks in employment to qualify for benefits; 3) waiting days before

receiving benefits; 4) duration of said benefit. The only difference for the scoring method is that these indicators are weighted by percentage of active workers covered by the programs (Esping-Andersen 1990: 54).

When replicating the index for a series of years the standard deviation from 1980 is used as a scoring benchmark for indicator scoring for all the years of available data when using Scruggs and Allan's (2006) reproduction with new data. Table 2 and 3 illustrates the scoring method of all three levels from the lowest level trough welfare program scoring to the final decommodification score for 1980 (Scruggs & Allan 2006).

Table 2: Decommodification scoring for 18 OECD countries in 1980 using replication data for three countries

		U.S.A	Sweden	Germany	Mean	SD
Unemployment	Replacement rate	69.0 2	82.0 3	68.0 2	62.0	17.1
	Duration limit (weeks)	26 1	60 3	52 2	38.8	13.5
	Qualifying period (weeks)	20 2	52 2	104 1	39.8	39.5
	Waiting (days)	7 2	5 2	0 3	4.6	5.0
	Coverage	0.82	0.72	0.75	0.71	0.16
Sickness	Replacement rate	0 1	96.7 3	100 3	64.4	27.5
	Duration limit (weeks)	0 1	none 3	78 2	56.6	42.6
	Qualifying period (weeks)	0 1	0 3	0 3	9.5	15.0
	Waiting (days)	0 1	1 2	0 3	4.7	4.7
	Coverage	0	1.0	0.90	0.83	0.17
Pension	Minimum pension replacement	15.0 1	43.2 3	17.5 1	32.3	11.0
	Standard pension replacement	55.6 2	73.0 3	75.5 3	52.4	17.1
	Qualifying period (years)	45 1	20 2	45 1	22.9	18.9
	Employee funding %	0.50 2	0 3	0.50 2	0.31	0.22
	Takeup	0.78	1.0	0.79	0.90	0.10

Source: Scruggs & Allan (2006:59). SD and mean is for all eighteen countries used by Esping-Andersen for 1980. Numbers in **bold** are the score for each indicator.

In Table 2 the scoring method used is identical to Esping-Andersen's description, but the scores are not identical. The reason for this is, according to Scruggs & Allan (2006) to some degree calculation errors they have corrected, but mostly that they use different data sources that are publically available and the original source data is not available for comparison⁴.

Table 3: The Decommodification index in 1980

	Unemployment	Sickness	Pension	Total Decom
Australia	4.0	4.0	5.0	13.0
U.S.A	7.2	0	7.0	13.8
New Zealand	4	4.0	9.1	17.1
Canada	8	6.3	7.7	22.0
Ireland	8.3	8.3	6.7	23.3
U.K	7.2	7.7	8.5	23.4
Italy	5.1	9.4	9.6	24.1
Japan	5.0	6.8	10.5	27.3
France	6.3	9.2	12.0	27.5
Germany	7.9	11.3	8.5	27.7
Finland	5.2	10.0	14.0	29.2
Switzerland	8.8	12.0	9.0	29.8
Austria	6.7	12.5	11.9	31.1
Belgium	8.6	8.8	15.0	32.4
Netherlands	11.1	10.5	10.8	32.4
Denmark	8.1	15.0	15.0	38.1
Norway	9.4	14.0	14.9	38.3
Sweden	7.1	15.0	17.0	39.1
Mean	7.1	9.2	11.2	26.9
SD	1.9	4.0	1.5	5.5

Source: Esping-Andersen (1990: 52)

⁴ The data used by Esping-Andersen (1990) has not been made publically available.

In Table 3 the results from Esping-Andersen's scoring in 1980 are listed. Notice that when Germany is taken as an example from Table 3 for unemployment, the results do not match the scores from Table 2. Scoring for unemployment⁵ according to data from Table 2 should be $2+2+1+3*0.75= 6$, but in Esping-Andersen's work in Table 3 the score for unemployment benefits is 7.9. The discrepancy between the replication and original work is evident, but the new available data are reliable and open to scrutiny.

1.2.4 Critique and Revision

Esping-Andersen's original work on decommodification has been scrutinized from many different angles since its publication in 1990. The focus of the research question is the critique coming from feminist welfare researchers, but to give a general overview I will summarize a broadside of what is criticized by the field of comparative welfare state research.

One of the main arguments against the three-type welfare typology is based on the new welfare regimes that sprang out of the new wave of democratization in the post-soviet era. Ferrera Maurizio (1996), Gans-Morse Jordan & Mitchel A. Orenstein (2008) and Leibfried Stephan's (1993) focus was on the new democratic regimes in eastern and southern Europe and the third wave of democratization creating new welfare regime types. These new regimes were in their opinion not a good fit for the established three-type typology and their argument is not against the index in itself, but rather that there is a need for a more extended classification than the one that distinguishes three types of welfare regimes.

I shall here focus on the critique relevant to the operationalization of decommodification and regime classification. The decommodification index in itself is sufficient to identify the liberal and social democratic regimes by looking at the level of generous welfare programs. But to be able to distinguish social democratic from the conservative regime type critics argue that the condition for the increase of female labor must be taken into account. The welfare state can efficiently create opportunity for women to work, but also hinder them from working or freeing themselves from family bonds. By only covering welfare policies that do not take into account

⁵ (Replacement rate + duration limit + qualifying period + waiting) * coverage = unemployment score

gender specific welfare needs the established index lacks explanatory power over female decommodification (Orloff 1993; O'Connor 1996; Sainsbury 1996).

This conclusion is further supported by Esping-Andersen (2009:77-110) where he shows a positive correlation between job securing paternity leave⁶ policies and life-time mean income for women and total years spent in fulltime employment (85-86). These findings were based on data for the 1990's and he used only descriptive statistics for a small selection of countries. The purpose of his research was to generate theories on how to adapt and describe ideal solutions for the welfare state to women's new role. Still the argument and data makes a good case for family welfare policies as a prime candidate for welfare policies of great importance for female decommodification.

To alleviate the pressure from the critics, Esping-Andersen reexamined his previous work in 1999, as mentioned in section 1.2.1, and incorporated the critique of lacking decommodification attributes for the female workforce and family dependence. With this work he created an additional trait for his three welfare regime types, to the already established two indices (decommodification, stratification), he named this new dimension de-familialization, which incorporates the sources from where one received welfare divided between family, market and state. In this way he aimed to make the clustering of the different regime types easier to identify (Esping-Andersen 1999: 51). Something that is to some degree confirmed by Benjamin T. Danforth's paper *The Emergence of Three Worlds of Welfare* (2010) where he shows that it rectifies the clustering of the regimes.

One of the most relevant arguments against the decommodification index is its own construct validity and its replicability. The main concern here is that the original data used by Esping-Andersen is not publicly available and that his work is based on data for only one year. The former is a concern for reconstructing the index with other data sources. Furthermore the description, as presented in section 1.2.3, does not clarify precisely what each indicator measure. This is most evident in his definition for "*minimum pension benefits for the standard production*

⁶ Paternity leave is used as a description of maternity and parental leave.

worker earning average wages” and “*standard pension for normal workers*” (Scruggs & Allan 2006: 57). In the next chapter I look more closely at the generosity index that is an attempt to modernize the measure of decommodification by incorporating new indicators and using publically available data sources.

1.2.5 The Generosity Index

Lyle Scruggs with Allan James in their research article *Welfare-state decommodification in 18 OECD countries: a replication and revision* (2006) developed The Generosity Index by using data for the same eighteen OECD countries as Esping-Andersen but with the use of available public data for the time period 1971-2002. The index is a measure of decommodification, but so not to confuse the new index with Esping-Andersen’s they gave it a different name than decommodification. The basic scoring is the same as with Esping-Andersen’s index but with data sources that are publicly available. With a thorough case study of each country’s welfare programs changes across time it secures a higher level of operational validity for the indicators across time and countries. The result is an index replicating and correcting some calculation errors from the original index and adjusting for states’ differing naming of said benefit and how the policies are put into practice. But the biggest change is that it incorporates family and couples’ replacement rates as added indicators for pension, sickness and unemployment benefits as part of the index. The benefit of adding this extra dimension is that it alleviates some of the critique directly from Orloff (1993), O’Connor (1996) and Sainsbury(1996) without depending on an independent research for classification such as the de-familialization classification (Scruggs & Allan 2006: 62-67). The new and old indicators use the same calculation method as Esping-Andersen, but for the generosity index the added family and couples’ replacement rates scores are added to the total indicator and index value. An example can clarify the simple difference between the old and new formula for unemployment scoring:

Decommodification Unemployment score = (replacement rate score + duration score + waiting score + qualification score) x Unemployment coverage

Generosity Unemployment score = (replacement rate score + **mean replacement rate for families/couples** + duration score + waiting score + qualification score) x Unemployment coverage

For the full coding and calculation overviews for all indicators and indices for Stata 13 see Scruggs, Detleff & Kuitto's do-file and codebook (2014).

1.2.6 The field of female employment and the welfare state

The research field covering state intervention's effect on female employment is not an untouched subject. But it has two distinctive approaches, where one covers family welfare policies⁷ and the other examines the effect of the welfare state as an employer (Orloff 2002).

In section 1.2.2 I introduced the paradox that to identify policies that decommodifies women I have to find what commodified them in the first place. This theory is not the basis for a radical new approach in the field of comparative welfare state research to understand what has an effect on female workforce participation. In Hadas & Moshes (2005: 14-15) *A Welfare State Paradox: State Interventions and Women's Employment Opportunities in 22 Countries* they combine the approaches of family welfare policies and the welfare state as an employer into one coherent index. The result of their research is the welfare state's intervention index created with the use of a factor analysis. This analysis identifies paternity leave and publicly funded day-care facilities as indicators, with an added dimension measuring the size of the public service sector representing the state as an employer, as highly significant for state interventions effect on female employment. The difference here is they use the data and the index to explain the difference in not only employment rates for women but also their place in the workplace hierarchy such as high status jobs. The problem with this index in the light of my own research question is that the data used has discrepancies across panels and it has a small time series. Data is mainly gathered

⁷ Parental leave, publically funded child care, universal public cash benefits for mothers. Policies in general that makes it easier to combine employment and child rearing.

for mid to late 1990's with differing years for some of the countries and indicators⁸ (Hadas & Moshe 2005: 56).

Because of these discrepancies and lacking time dimension in the dataset the index is not suited to answer my research question. Even though the data used got a limited time dimension their analysis still give validation to my assumption that family welfare policies, like parental leave, is an effective tool to increase workforce participation overall for women. Public employment is also shown to be significant as a state intervention that increase female employment but not without combining it with family welfare policies. As a policy on its own it has an insignificant effect on female employment. Furthermore the conceptualization of decommodification does not entail job creation but welfare policies that secure income and job protection when exiting the market.

Esping-Andersen's *The Incomplete Revolution: Adapting to women's new roles* (2009), that was touched upon briefly in section 1.2.4, is at the time of writing this thesis the most comprehensive in-depth look at the modern welfare state and the challenges it propose for female decommodification. In chapter three in the book he uses descriptive statistics to explain and understand the need to adapt family welfare policies. By examining the difference between progressive welfare states with generous family welfare policies he reveals a necessity to change the system of welfare in many states. Descriptive statistics, for a few select countries on different ends of the generosity scale for the programs, showed that in states where job protected parental leave was prevalent mothers had their average birth interruption from work and lifetime income penalty cut in more than half for all women. The same pattern was weakened when singling out data for women with low educational levels, but still in stark contrast to a state with low levels of family welfare generosity (Esping-Andersen 2009:86). Furthermore he shows us that the state actually earns money in the long run on generous family welfare policies. The cost of the policies is made back in income taxes from getting women back to work. Their added average active

⁸ Paidid maternity leave for 1995/96 for all countries, percentage of children in publically funded child care for most countries for 1993, but Norway and Germany uses 1988 data and the Czech Republic uses 1998 data. Furthermore Finland use data for employment in the public welfare sector from 1999

years as working tax payers' covers more than the cost of these services. The descriptive data used is only for two extreme cases⁹ and cannot be used as conclusive evidence for this effect for all countries (Esping-Andersen 2009:95). It would also be natural to expect that a state's potential to get a return on their investment is dependent on a high income tax.

In relevance to my research question the positive effect family welfare policies has on years spent in employment for women is promising. It's a clear indication of decommodifying policies that has a potential to explain the commodification of women. Years spent in full-time employment qualify them for higher levels of income replacement for unemployment benefits and pension programs. My conclusion is that family welfare policies are the best candidate for explaining female decommodification policies that both meet the needs of women and secures their employment.

There have been other comparative research efforts successfully linking family welfare policies to female employment rates (Daly 2000; Korpi 2000; Orloff 2002; Gornick & Meyers 2003). One discrepancy they all have in common is a shorter time series for their data than my own (1971-2002), and treating the data for female decommodification as a separate entity from a unified decommodification measure. Where I hope to contribute to this field of research is an index where the data is unified into one index across a much longer timespan. To do this some of the indicators¹⁰ used in their research has to be omitted because of data availability. But the longer timespan is in my opinion an added value that gives a more comprehensive understanding of decommodification and what has an effect on it over time.

1.3. Incorporating commodification into a new index

1.3.1 Redefining decommodification and identifying missing causal effects

The main argument I will present here is a simple one, the current indices do not consider the decommodification of the female workforce as a factor. The de-familialization specification of

⁹ Denmark and Spain.

¹⁰ Publicly funded day-care facilities and replacement rate for paternity leave.

the main source of welfare captures some of the elements for identifying regime types more precisely. The Generosity index does take a step in the right direction and incorporate family and couples' average replacement rates for the three different welfare programs. But none of them alleviate the problem (Orloff 1993; O'Connor 1996; Sainsbury 1996) of the activation of the female workforce by decommodifying welfare policies and the gender blindness of Esping-Andersen's decommodification index (1990).

The problem with the original index is that it only captures the possibility of exiting the market, but not the need for high levels of employment to sustain a highly decommodified state. It measures the quality, spread and qualifying factors of three different welfare programs. Which in themselves are only representative of the generosity of a welfare state and a genderless worker's possibility to exit the market. It does not in any way take into account the gender specific need for women to be commodified to receive higher levels of benefits such as replacement rates for unemployment benefits, sick pay and pension benefits. The indicators for sick pay and unemployment cash benefits are weighted by the active working population that is covered, and not as proportion of the potential working age population. In my opinion this is a measurement problem for a lot of liberal and especially conservative countries with a higher degree of stay at home spouses. In social democratic welfare regimes it does not take into account the degree of commodification of the female population that has happened and what welfare policies that drives this change. Therefore welfare states, at least on a conceptual level, are scored inaccurately because they lack indicators for welfare policies directed towards women. This indicates a lack of construct validity for the index in a modern society where the female population is becoming an increasingly important socioeconomic factor. But on the other hand Esping-Andersen's (2009:77-110) findings, in his book *The Incomplete Revolution Adapting to Women's new role*, show that decommodifying family welfare policies, that secures continued commodification of the female workforce, also have a positive correlation with total life-time mean income for women. The hypotheses are formed on this basis to identify if one of the two already established indices, Generosity and Decommodification, already sufficiently explain changes to active female labor. Furthermore welfare programs directed towards women and child rearing will be included because of Esping-Andersen (2009) limited case selection and time series.

The activating policies of a welfare regime, as pointed out by Huber & Stephens (2001), is a particularly important factor in welfare regimes that score highly on the decommodification index. The high degree of egalitarian and labor force activating policies creates a higher degree of workforce participation, especially among women. This creates a clear direction for the construction of the index and requires indicators to control for the decommodifying policies that make the commodification of the female workforce possible. Based on Huber & Stephens (2001), Huo et al. (2008) and Esping-Andersen (2009) findings I have defined the following hypotheses.

H1: The generosity of sick pay programs has no effect on female workforce participation

When controlling for welfare policies directed towards women in the form of family welfare policies I expect the possible general correlation between welfare programs for the sick and active female labor to be weak or non-existent. Even though welfare policies that provides job security and income replacement when the worker is sick is important to keep them working, I expect it to be of lesser importance for keeping women employed. This assumption builds on Esping-Andersen's (2009) findings using descriptive statistics showing family welfare policies as the most important welfare programs for female workforce participation. My time series cross sectional data should be able to confirm this hypothesis if Esping-Andersen's theory is correct.

H2: The generosity of unemployment benefits has no effect on female workforce participation

The hypothesis has its basis from established comparative welfare states research using the decommodification index (Huber & Stephens 2001; Huo et al. 2008). This research shows no connection between high unemployment rates and high levels of decommodification. More precisely, there is no expectation of a positive effect from decommodifying unemployment benefits on the employment rate of women. The only difference here is that for the generosity index (Scruggs & Allan 2006), and its underlying indicators with its inclusion of family and couples replacement rates, I expect the significance and coefficient to be weakened by the added explanatory variables. This necessitates that the theoretical assumption of the importance of family welfare policies are valid (Esping-Andersen 2009).

H3: The generosity of pension programs has a positive effect on female workforce participation

When looking at the feminist scholars' critique of decommodification they state that it lacks indicators for welfare programs important for female decommodification (Orloff 1993; O'Connor 1996; Sainsbury 1996). When examining the decommodification index (Esping-Andersen 1990) I argue that pension programs should not be ignored. In societies with stay at home spouses that take care of both children and the elderly with a single breadwinner to support the whole family, a generous pension program in combination with family welfare policies has the potential to create opportunities for female workforce participation. In other words, by freeing women from the task as main caregiver for the elderly it frees up time that can potentially be used for paid work.

The next following hypotheses are used to identify which form of family welfare policies that have a statistical significant effect on female workforce participation. According to the theoretical foundation of the feminist welfare researchers Orloff (1993), O'Connor (1996) and Sainsbury (1996) there should be a positive effect on female workforce participation from decommodifying welfare policies tailored to women and especially family welfare policies (Esping-Andersen 2009). These welfare policies are aimed at women's ability to stay at home to take care of their children and can be divided between two main functions. Policies providing income replacement and job secured leave for a new mothers, both work as decommodifying policies and latter lowers the threshold for reentering the workforce after paternity leave¹¹.

H4: Maternity leave has a positive effect on female workforce participation.

I expect that maternity leave's significance and effect is cancelled out to some degree by job protected parental leave. Both policies represent job protection but for different time periods connected to childbirth and rearing. Because of the general duration of parental leave is longer than maternity leave I expect maternity leave's effect to be nulled-out as an individual variable. On the other hand as part of total job protected leave I expect it to support the assumed positive effect of family welfare policies' on female workforce participation.

¹¹ Paternity leave is defined as the combined weeks of maternity and parental leave.

H5: Parental leave has a positive effect on female workforce participation.

I expect parental leave to have a strong significant effect on female workforce participation. As with maternity leave this secures job protection while on leave to take care of children. The difference here is that in most cases it is of a longer duration and for the time after giving birth instead of right before and after, like maternity leave. Both H4 and H5 is based on the same assumption that job protected paternity leave is important for female workforce participation. As shown in section 1.3.3 a combined variable for all job protected leave is used to closer examine the total effect of both policies combined.

H6: Paid parental leave has a positive effect on female workforce participation.

Paid leave I expect to have a smaller effect than parental leave on female workforce participation. This assumption is based on that in comparison to the importance of job security paid leave has a smaller effect on women's return to the workforce after job protected leave. The theoretical foundation for including this hypothesis to explain female commodification is not highly relevant, according to Esping-Andersen's (2009) findings it only appears as an effect on mean income for women. But in the theoretical definition of decommodification with the importance of income replacement when opting out of work there is still value in controlling the effect of the variable.

The precondition for H4, H5 and H6 is that Esping-Andersen's (2009) theory is correct and that family welfare policies are truly representative for what keeps women in the active workforce through life. Therefore, according to the Huo et al. (2008) findings, where highly decommodifying welfare policies were linked to high workforce participation, these hypotheses should be strong candidates to help define a new decommodification index that corrects for the lack of a dimension representing female decommodification.

Based on these hypotheses and the findings from the following analysis of the decommodification and generosity index I will have an empirical basis to re-specify an index that reflects a more precise operationalization of the concept of decommodification that includes welfare programs directed at women.

1.3.2 Method

To create the new decommodification index there will be two different main approaches. First I will use the theoretical foundation presented in chapter 1.2 as the main guideline for the construction. By using this theoretical foundation the definition validity of decommodification is strong and helps create a strong operational validity for the construction of the new index (Grønmo 2004:232-33). The second approach is a quantitative multiple regression analysis using variables chosen on their theoretical viability for explaining active female labor.

To identify what welfare programs has an effect on female workforce participation I will use time series cross sectional data, referred to as TSCS, with the generosity and decommodification indices' indicators as independent variables in several regression analysis. My analytical technique is based on my trials and errors when trying to specify the models to correct for the fundamental flaws that do not meet OLS preconditions with too much success. Fortunately I am not the first person that has tried to use the comparative welfare states dataset (Huber, Ragin, Stephens, Brady & Beckfield 2004), from now referred to as CWSD, with an index for decommodification and the problems it represent (Huo et al. 2008). Relying on their research and sound argument for the feasibility of using said analytical approach to correct for these problems I will be using the same approach to minimize potential erroneous estimations. As described by Huo et al. (2008:9-11) I will be applying a Prais-Winsten estimation (Prais & Winsten 1954) which includes a FGSL (Feasible General Least square) estimation, panel-corrected standard errors and a first-order autocorrelation correction that is suited for models where OLS (Original Least Square) preconditions are not met in a multiple regression analysis using TSCS data. By using this analytic approach the problems with the models specifications should be corrected for and give nominal results without problems for the estimation of the coefficients and error terms (Beck & Katz 1995). In my models I don't use a lagged dependent variable even though it's recommended in similar cases. The problem is that this approach suppresses the effect of independent variables in data with strong trends, but at the same time a lagged dependent variable is added by the Prais-Winsten estimations correction for first order autocorrelation (Achen 2000; Worall 2008: 238). Furthermore I don't use country dummies to correct for omitted variable bias based on the argument of Huo et al. (2008) referring to Plumper et al. (2005:330-34). The

argument is that country dummies in a fixed effects model reduce the coefficients of factors that vary between countries, and eliminate difference in the dependent variable caused by changes in the variable when changes occurs across time by one. This makes the difference in independent variable levels irrelevant across the units and making time invariant variables obsolete by omitting them completely. The main argument is that if you expect that the level of the independent and dependent variable to be dependent on a threshold effect, a fixed effect model is not the best solution for the problems of omitted variables.

My models are all expected to be dependent on a level effect because of the coding following the decommodification and generosity indices instructions to secure comparability. Furthermore factors vary greatly between countries and the models' sensitivity to changes overtime makes this approach relevant to fixing the problems with the models. Where my models do not implicitly meet the criteria is the use of time invariant independent variables. This presents a vulnerability for the validity of the results, but as presented later in section 1.3.3 other approaches I have used to correct for the omitted variable bias has shown the same patterns for what has a relevant effect on active female labor.

My chosen approach is well suited and peer reviewed for use on this type of data and specification problems. To apply the above described approaches to the models the `xtpcse`¹² command in Stata 13 is used. This command applies a Prais-Winsten estimation when a first-order autocorrelation is specified and estimates with panel-corrected standard errors that corrects for the models between group heteroskedasticity. It is tailored to give nominal results when using TSCS data (Stata 2014). The internal validity should be strong for the experiment with these preconditions handled with said approach. The conclusions from the causations identified in the analysis should be strongly reliable for the cases. For external validity this approach is somewhat more dubious outside the universe. Outside these eighteen OECD countries and especially in third world countries the causation can be potentially different. So the conclusion is that the external validity in the analysis is strong for countries with similar socioeconomic and political

¹² $y_{it} = x_{it}\beta + \varepsilon_{it}$

development as the countries used in this study. For states with different socioeconomic circumstances the validity is weaker without further data and research to confirm the same causations (Grønmo 2011:232-33). A problem with this analytical approach is its sensitivity for missing data points. To accommodate this there would be a need to adapt models by limiting the time or case selection to minimize missing data points (Gujarti 2003:637-38; Gujarti 2012:298-303). In this data set there are only two missing data points and a large N and T sample so further adaptation is not needed.

The Prais-Winsten estimation with FGLS, panel-corrected standard errors and correction for first order autocorrelation as an equation is expressed in its simplest form by the following regression model (Stata 2014: 3)

$$y_{it} = x_{it}\beta + \epsilon_{it}$$

Y is the representation of the dependent variable and its variation, X is the independent variable and ϵ is the unexplained residual¹³ term left after controlling for the effect of the independent variables. β is the coefficient of the independent variable that tells us how much Y changes when X goes up or down by one, i is panel identification i and t is these units appearance in panels over time. In short, it estimates the effect of X on Y when controlling for changes across time and panels (Stata 2014: 3-4; Skog 2004: 217-18).

When adapting the same model to express multiple panels the equation adds m that represents the number of panels. In this case “ ϵ_{it} is a disturbance that may be autocorrelated along t or contemporaneously correlated across i ”. This equation presented here is only correct if t and i equal one (Stata 2014: 4).

¹³ Residual= Observed value – predicted value

$$\begin{bmatrix} y_1 \\ y_2 \\ \cdot \\ \cdot \\ y_m \end{bmatrix} = \begin{bmatrix} x_1 \\ x_2 \\ \cdot \\ \cdot \\ x_m \end{bmatrix} \beta + \begin{bmatrix} \epsilon_1 \\ \epsilon_2 \\ \cdot \\ \cdot \\ \epsilon_m \end{bmatrix}$$

By comparing different models using this analytical approach it is possible to test my hypothesis to see if the already established indices accommodate female decommodification to a satisfying degree.

1.3.3 Data

The data gathered to test my hypotheses are gathered for Esping-Andersen's case selection of eighteen OECD countries and for the time period 1971-02. Countries included in the study are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italia, Japan, Netherlands, New Zealand, Norway, Sweden, Switzerland, U.K. and U.S.A. The sources of the original data do vary and I have done some recoding of the raw data to suite my operational needs¹⁴. In the following data description I list my variables with operational definition, coding description and sources. The only exception is the coding description for the decommodification and generosity index that I have already presented in detail in section 1.2.3 and 1.2.5. For a complete overview I refer you to the original codebooks and do-files linked to in the reference section (Scruggs, Detlef & Kati 2014).

Generosity was coded by Scuggs and Allan (2006) and *decommodification* uses Esping-Andersen's (1990) original instructions for coding as replicated by Scruggs et al. (2014). The former uses the same data but a somewhat more adapted coding for each individual state. I use the same data and coding for the underlying indicators and the two indices as a whole. The data was first published in 2006 and has since been updated by Scruggs et al., and used by many respected researchers such as John D. Stephens in some of his articles. The data has gone through a sufficient level of peer review and scrutiny to be viewed as reliable, but the coding of the two

¹⁴ The recoding of variables is specified in the variable description when applicable.

different measures has in my opinion not been sufficiently scrutinized on their operational validity.

Active female labor is women in employment as percentage of female working age population. To create this variable I used the number of employed women as a percentage of female population aged 16-65. This variable is used as the dependent variable to measure female employment development and what affects it. The source is Huber et al. (2004) compilation CWSD that is a continual project that is updated with new data every other year.

The source used for the next five variables representing family welfare policies are compiled from OECD PF2.4 Parental leave replacement rates and cross checked with the source documentation (OECDa 2014; OECDb 2014).

Maternity leave is the sum of pre and post-birth maternity leave weeks that is protected by law and is universal.

Parental leave protected is the sum of universal job protected weeks after maternity leave protected by law.

Parental leave paid is the sum of parental leave weeks that also give a form of income replacement or cash support regardless of job protection or former employment duration. This is measured by the lowest time period with the highest replacement rates available to all women when several options are available. An optional variable coded by longest duration with lowest replacement rates was also considered, but did not have any significant effects due to only 39 variations from the chosen variable out of the total of 572.

Total leave protected is the sum of universal paternity job protected weeks including both maternity and parental leave. This is used as a control variable to identify if weeks of work protection independent of individual maternity or parental leave are more important than each individual program.

Total leave paid is the sum of total number of weeks women can be on leave and receive any form of cash benefit¹⁵. This includes the total sum of paid weeks from both parental and maternity leave. Same control variable reasoning as total protected leave but for paid weeks.

These previous five variables are scored using Scruggs & Allan's (2006) method with a 1980 benchmark for Standard deviation and mean to secure comparability with the indices indicators¹⁶.

Unemployment Score G, *Sick pay Score G* and *Pension score G* is the score given to unemployment benefits, sick pay and pension benefits indicators given the generosity index method. The same named variables without a G uses the decommodification index method for scoring (Scruggs et al. 2014).

Decommodification and *Generosity* are the total score for each of the two indices (Scruggs et al. 2014).

Table 4: Descriptive statistics for all variables in section 1.3.3

	N	Minimum	Maximum	Mean	Std. deviation
Active Female Workers %	572	29.35	79.43	54.62	11.47
Maternity leave	576	0.62	4	1.92	0.82
Parental leave protected	576	1.45	4	2.24	1.00
Parental leave paid	576	1.59	4	2.26	1.02
Total leave protected	576	1.06	4	2.20	0.98
Total leave paid	576	0.87	4	2.17	1.09
Unemployment Score G	576	1.02	12.97	7.39	2.72
Sick pay Score G	574	0	15.66	8.38	3.90
Pension Score G	576	2.21	19.50	11.44	3.24
Generosity Index	574	11.04	45.38	27.22	7.42
Unemployment Score	576	1.11	11.63	7.04	2.10
Sick Pay Score	576	0	15.66	8.17	3.32
Pension Score	576	4.67	17	11.62	1.96
Decommodification Index	576	14.49	43.10	26.83	5.62

Source: Huber, Ragin, Stephens, Brady & Jason (2004), Scruggs, Detlef and Kati (2014), OECDa (2014).

¹⁵ This is based on paid maternity and parental leave weeks with highest replacement rates.

¹⁶ Coding instruction is available in the appendix.

Before moving on to the results there are a few details that need to be pointed out. There are two missing values for Germany in models one, three and five that uses the generosity indicators. The reason for this is missing data for the years 1971-72 for the underlying indicator for sickness and replacement rates for couples and families in the generosity index. In the period before the reunification in 1990 data for western Germany is used.

1.3.4 OLS preconditions

Here I will present the problems with OLS preconditions of the models in part one of this thesis that has shaped the choice of method and analytical approach. This is described here so that others can review my chosen analytical approach and possibly improve upon it or disagree with the validity of my results.

As evident from statistical tests done in the computer program Stata 13 heteroskedasticity is a prevalent problem for all models. This is expected when using aggregate data for a study with a large N and panels. By examining the data and models independently with statistical tests for types of heteroskedasticity the main problem is revealed to be heteroskedasticity between panels. Further statistical tests shows an expected first-order autocorrelation problem for all models that is a typical problem for TSCS models with a large T. Both problems can cause incorrect significance tests and incorrect estimates of standard deviations (Skog 2010:246-48, 250-52).

Graphical tests for model normality of the residuals show a distinct s-curve. Further statistical tests confirm the lack of normality in every model in section 1.3.5. The lack of meeting preconditions of normality in the residuals in my models are not necessarily damaging for my estimates. This type of test is very sensitive with small and large N. In the case of my data the observation from model to model varies from 570 to 572 and this should eliminate the lacking normality of individual variables. The use of FGLS estimates further helps eliminate wrong estimates for the coefficients and standard errors. The research done in later years on the importance of normality in studies with large samples also confirms that it should not have a significant effect on the outcome for my models (Midtbø 2006: 61).

The biggest problem for any model is the problem of non-linearity. The consequence of ignoring this problem will cause incorrect standard errors, significance tests and coefficients. The nature of

the limited variables used to identify welfare programs importance for female workforce participation is evident in both lacking explanatory variables and the scoring system. Despite the changes done to the scoring by Scruggs and Allan (2006) that allows for decimal jumps instead of whole numbers, that is also applied to my variables for family welfare policies, the predicted linearity and significance is not consistent with actual changes to Y for models 5 and 6 in Table 6 (Skog 2010:237-39). As a consequence the results from these models should not be taken as strong empirical evidence, despite a well suited analytical approach. They will still help guide the analysis and hypotheses testing.

To stay consistent with the theoretical approach of identifying if family welfare policies better explain female workforce participation I have tried to remedy the problem with different approaches. By using different non-linear regression methods¹⁷ the significant results, coefficients direction and strength has stayed approximately the same, but most importantly consistent with the results of my chosen analytical approach. The method used as presented in section 1.3.2 was chosen because of its reliability by peer review as it has used with the original decommodification index and its indicators as dependent variables in research facing the exact same problems as my models (Huo et al. 2008). Reasoning for this analytical approach is well tested and sound. But in the case of Table 5 and 10 the results are guiding the emphasized theoretical development of the index and cannot be used as an empirical foundation for anything more than comparing the relevance of each index's value as an explanatory variable in comparison to the others.

¹⁷ Random effects and log transformation of variables.

1.3.5 Analysis and detailed presentation of results

To present my findings in an as clear as possible fashion I will here review the results in two different tables. The first table shows the effect the three different indicators from the decommodification and generosity indices have on active female labor in two separate models. The second table adds variables scored using Scruggs and Allan's (2006) method for *Maternity leave*, *Parental leave protected*, *Parental leave paid*, *Total leave protected* and *Total leave paid* in conjunction with scoring data for the underlying indicators for the decommodification and generosity indices in four different models.. In section 1.3.7 the hypotheses will be tested and results analyzed. All numbers in this thesis are rounded up to fit two decimal places.

Table 5: Decommodification and Generosity indices' indicators effect on active female labor

VARIABLES	Model 1	Model 2
	Active female Labor	
<i>Unemployment Score G</i>	0.22 (0.19)	
<i>Sick pay Score G</i>	-0.04 (0.76)	
<i>Pension score G</i>	0.13 (0.25)	
<i>Unemployment Score</i>		0.40 (0.03)**
<i>Sick pay Score</i>		-0.07 (0.59)
<i>Pension Score</i>		0.06 (0.64)
Constant	52.03 (0.00)***	51.74 (0.00)***
N	570	572
Number of groups	18	18
Rho	.739	.982
R-Square	.324	.317
Level of significance: ***=.01, **=.05, *=.10		

The results in Table 5 show that welfare policies in the form of *unemployment benefits* are significant but only in model 2. Model 1 use indicators from the generosity index and model 2 use indicators from the decommodification index. When looking at R-squared scores the indicators from the generosity index have the lowest explanatory power of the two indices. But

with only a difference of .007 and the difference in indicators this can't be said to be comparable or substantial evidence for a stronger model.

The statistical significance and coefficient of *Unemployment score* in model 2 is at a 5-percent level. With an assumed constant of 51.74 when all independent variables have a zero value and a value range for the independent variable of 10.5, the maximum predicted effect with a coefficient of 0.40 for unemployment benefits is a 4.2 increase summed to a total of 55.94 percent active female labor. Looking at the variance for Norway in the time period 1971-2002 the variation in value for unemployment benefits is close to a 3 point increase. But for female labor the increase is about 36. With an expected effect of a 4.2-percent increase in difference between the lowest scoring and highest scoring country this shows that the decommodification index lack some key indicators that explain active female labor.

The lack of any significance in model one was not expected when looking at the generosity index's addition of family and couples' replacement rates to the equation. Countries with high levels of decommodification for a family unit could be expected to have high levels of welfare programs directed towards gender equality. But in the case of the generosity index it can be explained by the conservative welfare regime model with its focus on the family unit's collective welfare with a male breadwinner. Conservative states are scored higher, in comparison to the decommodification index, and this obscures the effect these policies have on activating female labor. But the most probable cause of the lack of significance and effect on active female labor are missing independent variables. In accordance with Esping-Andersen (2009) there should be a higher level of female participation in the workforce when there is a high degree of family welfare policies directed towards female job protection. In Table 6 I add these variables to identify their effect on the dependent variable.

Table 6: Scored welfare programs effect on active female labor

VARIABLES	Model 3	Model 4 Active female labor	Model 5	Model 6
<i>Total leave protected</i>	0.94 (0.00)***	0.91 (0.00)***		
<i>Total leave paid</i>	0.34 (0.22)	0.30 (0.26)		
<i>Unemployment score G</i>	0.30 (0.09)*		0.31 (0.08)*	
<i>Sick pay Score G</i>	-0.05 (0.71)		-0.06 (0.64)	
<i>Pension score G</i>	0.16 (0.18)		0.15 (0.19)	
<i>Unemployment score</i>		0.43 (0.03)**		0.42 (0.03)**
<i>Sick pay score</i>		-0.07 (0.62)		-0.08 (0.55)
<i>Pension score</i>		0.08 (0.55)		0.07 (0.57)
<i>Maternity leave</i>			0.45 (0.38)	0.36 (0.49)
<i>Parental leave protected</i>			0.87 (0.00)***	0.79 (0.01)**
<i>Parental leave paid</i>			0.42 (0.09)*	0.38 (0.11)
Constant	48.40 (0.00)***	48.64 (0.00)***	47.56 (0.00)***	48.23 (0.00)***
N	570	572	570	572
Number of groups	18	18	18	18
Rho	.95	.96	.95	.97
R-Square	.516	.490	.518	.468

Level of significance: ***=.01, **=.05, *=.10

To make Table 6 easier to interpret I have used numbers in bold for the models using the indicators from the generosity index that has shown to be most relevant for the hypotheses. I will also keep the interpretation of the coefficients in models 4 and 6 to a bare minimum as they are shown to have a lower explanatory power when adding family welfare policies to the models. There are furthermore no theoretical support for the original decommodification indicators (Esping-Andersen 1990) in table 4 and 6 that show they incorporate any form of female specific decommodification. The generosity index's (Scruggs & Allan 2006) use of family and couples' replacement rates has theoretically included some level of female decommodification.

When interpreting the R-squared in Table 6 models 3 and 5, using the generosity index's indicators, accounts for the highest degree of explanatory power on the dependent variable. Because of the small difference between models 3 and 5 the difference should not be taken as proof of a superior model. In this case the difference is so small that the theoretical foundation, Esping-Andersen's (2009) findings and logical reasoning, weigh in on what model best explains active female labor. Still the relatively high R-squared scores show that the independent variables do not explain all the changes to *Active female labor*. The *rho* remains high for all models, but this is to be expected with this sample size with aggregate data as mentioned in section 1.3.2. The necessary precautions with panel-corrected standard errors and fitting for first order autocorrelation should minimize the possibility of misleading results.

In model 3 *Total leave protected* is significant within a 1-percent level and the coefficient is 0.94. With a value range of 2.94 the total predicted effect is an increase of 2.76 on active female labor. *Unemployment score G* is within a 10-percent significance level with a value range of 11.95 and a coefficient of 0.30. The total predicted effect is therefore 3.58, but because of its lower significance level the empiric value of the variable is lower than for total leaves job protected paternity leave.

In model 5 *Parental leave protected* is at the same significance level but with a coefficient of 0.87. The value range of 2.55 then gives a rounded up total predicted effect of a 2.22 increase on active female labor. *Parental leave paid* is within a 10-percent significance level and with a coefficient of 0.42. With a 2.41 value range the total predicted effect on the dependent variable is a 1.01 increase. *Unemployment score G* is significant at the 10-percent level and with a coefficient of 0.31 the predicted total effect is 3.71.

In both models neither *Paid weeks parental leave* nor *Total weeks paid*¹⁸ are significant within a 5-percent level and therefore they have no strong empirical proof of an effect on the proportion of working age women employed.

¹⁸ Weeks paid paternity leave.

In model 3 the constant is significant at a 1-percent level and assumes that if all independent variables are zero that active female labor stays at 48.40-percent. For model 5 the significance is the same and the constant assumes that active female labor is 47.56-percent without the effect from the independent variables. This shows us that the level of working age women employed is relatively high and close to 50% when all independent variables are assumed to have a value of 0. This is to be expected because of the data spanning 1971-2002 and the initial societal changes causing active female labor was initiated prior to 1971 (Huber & Stephens 2006:156-158).

What these results show is that of the statistical significant family welfare policies, *Total leave protected* has the highest predicted effect on the proportion of working age women employed. Furthermore unemployment benefits using the generosity indicators are at a lower significance level, but it does have a stronger overall effect. It must also be noted that *Unemployment benefits G* have a bigger value range and consists of five different underlying indicators¹⁹. Therefore the effect from job protected weeks with paternity leave is substantial in comparison.

1.3.6 Summarizing the main findings

To summarize the results I will here discuss the important findings. For models 1 and 2 in Table 5 there were used no extra independent variables outside the generosity and decommodification index. The purpose of this model was to give a basic overview on how decommodification is perceived today in the present theoretical framework for female decommodification. For the original decommodification index (Esping-Andersen 1990) unemployment benefits have a statistically significant strong effect. Sick pay and pension benefits are not significant in either of the models. The difference in significance can be caused by the generosity index's inclusion of couples and family replacement rates, but it's more likely that the models in Table 5 are both lacking explanatory variables to produce empirically correct coefficients and significance.

In table 6 I have shown that when including indicators for family welfare policies the explanatory power and strength of the generosity index's indicators increases to a higher level than the models using the original decommodification index coding. The results show that there are more than just

¹⁹ As describe in section 1.2.3

welfare policies that explain active female labor when looking at the models overall explanatory power, but this is to be expected based on the research of Huo et al. (2008) that shows that total active labor is dependent on both welfare policies, work activating policies and political movements.

Looking at the results, with the purpose of finding which decommodifying welfare programs are important for female workforce participation, it is clear that job protected paternity leave has a strong empirical foundation as policy that helps working age women stay employed. The generosity of unemployment benefits is also shown to have a strong positive effect, but to a less significant degree.

When running the same models but omitting the Scandinavian countries the significance of *parental leave protected* and *total parental leave protected* stay within a 5-percent significance level and coefficients stay close to 0.9. So even when removing the countries with the highest female workforce participation, the effect of job protected paternity leave is not only significant, but also outputs the same positive effect²⁰. These results give me great confidence that my findings presented in this section are robust and generalizable to the universe of cases.

1.3.7 Hypotheses testing and discussion of findings

In this section I will review the hypotheses in light of the results in Table 6 and discuss the plausibility and relevance of the findings. This section will be the basis for the next chapter's index construction. The threshold for statistical significance is set at a strict five percent level to secure that the hypotheses testing is not too lenient and that the wrong conclusions are drawn.

H1: The generosity of sick pay programs has no effect on female workforce participation

For H1 the results are as expected when controlling for job protected paternity and paid leave. In all of the models in Table 6 neither of the two scoring types for sick pay shows any significance. Therefor the hypothesis is confirmed and sick pay has no proven effect on female workforce participation. Welfare programs scored high on sick pay have a low qualifying period and high

²⁰ Because of the minimal change of analysis a table for these results is omitted from this thesis.

replacement rates. Low requirements and high replacement rates will not alone make people enter the workforce. For women, as shown by Esping-Andersen (2009) and confirmed by my results, family welfare policies are more important.

H2: The generosity of unemployment benefits has no effect on female workforce participation

In Table 6 all models show a positive effect from *unemployment benefits* on active female labor within an acceptable level of significance for the indicator taken from the decommodification index. For the indicator taken from the generosity index the significance drops down to a 10-percent level. The controlling effects from the new explanatory variables on the unemployment indicator are not as expected for the models using the generosity index as its basis. *Unemployment benefits* is not within an acceptable level of significance, but the significance has still increased after the introduction of the new explanatory variables in Table 6. The increased power of the coefficients and significance might be caused by spurious correlations between unemployment benefits and family welfare policies. It could also be the result of increasing levels of active female labor causing political pressure to increase said benefits, but it's rather more plausible that the effect is reversed where higher female workforce participation has a positive effect on unemployment benefits when including family and couples' replacement rates.

In short, for women to receive higher levels of decommodification benefits they have to qualify for them by working, this in turn affects the generosity indicator for unemployment benefits when there are high levels of the female workers that qualify for higher replacement rates. Therefore the families and couples' replacement rates metric for unemployment benefits are scored higher in countries with high levels of female workforce participation. Based on the results from the analysis showing that the significance level is not within acceptable levels the hypothesis is confirmed for the models using the generosity index's indicators.

H3: The generosity of pension programs has an effect on female workforce participation

When looking at the effect of pension program generosity on active female labor in Tables 6 the effect is clearly not there. My assumption that a generous pension program in combination with family welfare policies would create the opportunity for women to work is not confirmed. The hypothesis of a positive effect is therefore rejected.

H4: Maternity leave has an effect on female workforce participation.

Maternity leave is not significant in any of the models in Table 6. Maternity leave has an effect on active female labor but only as part of total job protected leave. On this basis the hypothesis is rejected and maternity leave as an individual measure is without an effect on active female labor. This was to be expected when using overlapping variables representing job protected paternity leave only divided by what time during or post pregnancy they're viable.

H5: Parental leave has an effect on female workforce participation.

Parental leave protected has a strong effect on active female labor and is significant within a 5-percent level in all models, both as an individual policy and as a part of total weeks job protected leave. The hypothesis stands with results confirming and strengthening Esping-Andersen's (2009) work showing the importance of job protected parental leave for female lifetime employment.

H6: Paid parental leave has an effect on female workforce participation.

Parental leave paid is not significant within a five percent level and the hypothesis is rejected. These results indicate that replacement rates are less important than work protected leave for active female labor. Women in most cases have to take time off to take care of their children no matter what, but work protected leave secures them the possibility of reentering the market. Paid leave does not have a direct effect on female employment and therefore its effect is marginalized in comparison to job protected paternity leave. This does not come to mean that it's not an important part of female decommodification, but as a tool for getting women back to work it got no significant empirical effect in these models.

Table 7: Summary of hypotheses testing in section 1.3.7

Hypotheses	Confirmed	Additional information
The generosity of sick pay programs has no effect on female workforce participation	X	
The generosity of unemployment benefits has no effect on female workforce participation	X	It has a positive effect at a 10-percent significance level
The generosity of pension programs has a positive effect on female workforce participation		
Maternity leave has a positive effect on female workforce participation	X/0	Significant as part of <i>Total weeks Protected</i> .
Parental leave has a positive effect on female workforce participation	X	Stronger effect as part of <i>Total weeks protected</i>
Paid parental leave has a positive effect on female workforce participation		

X= Confirmed X/0 Inconclusive

The results of the hypotheses testing have shown to be fruitful and new decommodifying welfare policies directed towards women have been identified. Job protected leave is without doubt a very effective policy tool to get women back into the workforce after giving birth. Paid leave on the other hand is not an effective tool on its own to keep women working after leave. But it is important as income replacement and therefore it gives women a possibility to opt out of work without loss of income. By Esping-Andersen's own definition, "...citizens can freely, and without potential loss of job, income, or general welfare, opt out of work when they themselves consider it necessary." (Esping-Andersen 1990:23), these welfare policies should not be ignored.

The results from the models in Table 6 show that the indicators from the two existing indices have many similarities. But the important difference comes to light especially in the result for the generosity index's indicator for unemployment benefits reduced significant effect on active female labor in comparison to the decommodification index's equivalent. This example show that the generosity index in combination with family welfare policies has increased in explanatory power on the dependent variable over the decommodification index, but also have a lower significance for the indicator for unemployment benefits in comparison to the original decommodification indicator. By including data for family and couples' replacement rates for the

programs it has added information that includes women's welfare policies, to a small degree, into the existing programs. Of the two indices the generosity index show the most promise when it comes to addressing the critique of lacking a female decommodification dimension.

My conclusion is that the optimal course of action is to use the generosity index as a basis for the new index and develop it further by adding family welfare policies in the form of job protected paternity leave and paid paternity leave. This is supported empirically by the results that identify job protected paternity leave as highly significant and strongly correlated with an active female labor force, and the theoretical definition of decommodification supporting the use of paid paternity leave.

1.4. Removing the gender blindness from the decommodification index

1.4.1 Index construction

In this section I will introduce the new index and explain how it is constructed. The process of adding the new indicators to the generosity index and how they are scored will follow the same procedures as Scruggs & Allan (2006) and Esping-Andersen (1990). Variables from the last chapter will be used, but the scoring will be altered to ensure that the new index measures what I set out to measure and by that secure internal and operational validity. If changes are not described the method of the variable coding from chapter 1.3 is used.

As reasoned in section 1.3.7 the generosity index will be used as a foundation for the new index. The added inclusion of family and couples' replacement rates indicators increases the construct validity of my new index even before adding welfare policies directed toward women. The indicators for sick pay, unemployment benefits and pension benefits will be used unaltered from the original source.

In chapter 1.3 family welfare policies was shown to be key variables for activating the female workforce. The most important of them is job protected paternity leave, and to a lesser extent paid paternity leave. In Esping-Andersen's (1990) original index he used a multiplier for what he deemed the key indicators for each welfare policy. He multiplied replacement rates for pension and unemployment benefits by 2 to emphasize their importance as income replacement. For family welfare policies I will use the same method to weight the importance of both job protected

paternity leave and paid paternity leave to emphasize their importance as tools of female decommodification. Other than this change I will use the already established coding with a 1980 benchmark for standard deviation for scoring done in chapter 1.3 for the indicators of my choice.

In chapter 1.3 I used total job protected leave as an explanatory variable that uses both job protected maternity and parental leave as a source. Even though the models it was used in shows less explanatory power on active female labor it should not be ignored because of the marginal difference in R-squared. When looking closely at the data for the U.K there are time periods where there are forty weeks work protected leave in the form of maternity leave and no weeks of protected parental leave. This means that the significance of both variables independently are being misrepresented by overlapping definitions of job protected parental leave and maternity leave. The solution to this problem will be using all job protected paternity leave weeks' as the first indicator for the new index. In all the models it shows great significance and it is logical that something that secures the possibility of not losing your job should be weighted stronger. The weighing to increase strength will be, as mentioned in the last paragraph, a 2x multiplier.

Paid leave runs into the same type of problem as protected leave. When looking at the data the overlapping values of protected and paid leave are strongly correlated. The difference is that paid leave has an effect on overall income²¹ and not necessarily something that motivates the worker to reenter the market out of necessity. The theoretical definition of decommodification supports the use of the variable as defined by Esping-Andersen (1990:23), “...citizens can freely, and without potential loss of job, income...”. As mentioned in the data section of chapter 1.3 there was an alternative variable for paid leave considered that measured longest weeks with lowest income replacement. But due to only 39 variations in values for benefit length across time and countries it will only complicate the index without adding a significant amount of information. Instead I use the variable total paid leave from part 1 that use highest income replacement rate and weeks as was used in tables 5 and 6. This will also be multiplied by 2 to weight its importance founded in the theoretical definition of decommodification to strengthen the impact

²¹ According to Esping-Andersen's (2009:86) limited case and time selection using Denmark and Spain.

of these gender specific decommodification indicators. The reasoning for this is to alleviate as much as possible of the feminist welfare state scholars' critique of decommodification as a gender blind concept. Ideally I would use data for paid paternity leave's replacement rates in addition to duration for all eighteen countries, but because of limited data available at this point in time it had to be omitted.

Parental leave for men as an indicator was also considered but was omitted due to lacking data points. It should also be less relevant to the decommodification of women even though it could potentially create an opportunity for women to enter the market earlier. A second variable considered was public kindergarten coverage or state subsidized daycare. This could have been a strong explanatory variable for what makes it possible for women to enter the market after paternity leave. Unfortunately data availability has been limited to few countries and short timespans. In future research I would like to, if possible, dedicate time to gather this data for a larger timespan for all countries. As of now the data and documentation for these kinds of programs are not readily available. The work to gather this information would require a lot more time or a large international cooperation to secure sufficient data.

To summarize the choices made to form the new index I will first present here the theoretical inspiration. First, the obvious approach used is the generosity index with its data complexity and calculations. But for the added dimension of family welfare policies I will keep it simple. The basic calculation of the indicators are the same as already described, but the choice of which and how many variables are used is inspired by indices like the democracy dictatorship index (DD) (Alvarez, Cheibub, Limongi, & Przewroski 1996). The DD index's measures are based on certain key indicators for democracy. But rather than levels of democracy it measures if it is a democracy or not in a basic dummy variable form. This does not mean it's not complex in its reasoning, but rather that it uses democratic theory and a set standard to what indicates a democracy.

My approach is not that I have created a dummy index, but rather that my choices of indicators are theoretically founded but not overly complex. They showed in essence their positive effect on female employment in chapter 1.3, and in highly decommodified welfare states, according to Huber et al. (2008), the active workforce should be substantially higher than in the lesser decommodified states. In simpler terms, decommodifying policies that also stimulate female

workforce participation are great candidates for new indicators that remove the gender blindness of the existing measure of de commodification.

My use of job protected paternity leave is supported by Esping-Andersen's (1990) theoretical definition of de commodification and my analysis on its effect on active female labor. Paid paternity leave on the other hand is only supported by the theoretical definition supported by its effect on female mean income and data-limited empirical research (Esping-Andersen 2009). Ideally available data for female mean income in all eighteen countries with the same time period, as used in my analysis, could strengthen this connection rather than relying on descriptive statistics and theory generating works. But according to the operationalization of the concept the use of paid parental leave is in my opinion justified.

In Table 8 on page 44 the raw data and scoring for the new dimension is presented by using data from all eighteen countries in 1980. These consist of *weeks paid paternity leave* and *job protected paternity leave*. Notice that the final score for each indicator is higher than zero when the raw data is zero. The reason for this is the lack of a cutoff point in the scoring method used for the generosity index. I used this approach to alleviate the problem with the original index where raw data values below a certain level/cut off point were ignored and scored zero, despite having different scores from one another below this threshold. Furthermore to integrate the new family welfare policy indicator into the existing generosity index, securing operational validity, using the same scoring method without a clear cut off point for the generosity index was necessary. Each indicator was also weighted according to the same approach as Esping-Andersen's (1990) reasoning, that these policies are theoretically and empirically important enough to increase their effect on a theoretical foundation in comparison to the other indicators²². In practice this should have little to no effect on the clustering/ranking of countries for the family welfare indicator, but for the purpose of giving weight to these important welfare policies for women in contrast to the established de commodification indicators, it is important to increase their weight to even out the playing field. In section 1.4.2 I show that the change is small but the explanatory power is

²² Esping-Andersen simply multiplies the indicators of greater importance with two.

stronger and further validates the weighting of the indicators. Both variables operate with a theoretical maximum score of 8 and a minimum score of 1.74 and 2.12. Combining these two creates the basis for a family welfare policies indicator with a maximum score of 16 and a minimum of 3.87

Table 8: Scoring and raw data for family welfare policies in 1980 for 18 OECD countries

	Weeks with income replacement	Score	Job protected weeks	Score
Australia	0	1.74	0	2.12
Austria	60	8	60	5.44
Belgium	14	3.43	14	2.90
Canada	15	3.55	17	3.06
Denmark	18	3.91	18	3.12
Finland	37	6.20	37	4.17
France	16	3.67	120	8
Germany	31	5.48	31.3	3.85
Ireland	12	3.19	12	2.78
Italy	48	7.53	47.7	4.76
Japan	12	3.19	12	2.79
Netherland	12	3.19	12	2.79
Norway	18	3.91	70	5.99
New Zealand	0	1.74	0	2.12
Sweden	26	4.88	112	8
Switzerland	0	1.74	8	2.57
U.K	18	3.91	40	4.34
U.S.A	0	1.74	0	2.12
Mean	18.72	4.34	33.94	4.40
SD	16.60	2.17	36.16	1.96

Table 9: Scoring and ranking for each decommodification index in 1980

	Decommodification	Generosity	New Decommodification
1	36.4 swe	42.3 swe	55.2 swe
2	33.5 nor	38.4 nor	48. nor
3	33 den	37.3 den	44.3 den
4	32.2 swi	35.9 nld	42 fra
5	31.8 nld	31.3 bel	41.8 nld
6	30.5 bel	31.2 swi	41.2 aut
7	29.6 ger	30.3 fra	38.4 ger
8	27.9 fin	29.1 ger	37.8 fin
9	27.8 aut	27.8 aut	37.6 bel
10	27.8 fra	27.4 fin	35.5 swi
11	25 can	26.2 nzl	30.1 nzl
12	23.8 nzl	21.3 can	30.1 ita
13	22.9 u.k	21.2 ire	27.9 can
14	21.8 ire	19.3 u.s	27.2 ire
15	20.6 ita	19.3 aus	27 u.k
16	20.1 aus	18.7 u.k	23.4 jpn
17	20 jpn	17.8 ita	23.2 u.s
18	18.6 u.s	17.4 jpn	23.2 aus
Mean	26.9	27.3	35.23
SD	5.45	7.78	9.30

aus=Australia, aut=Austria, bel=Belgium, can=Canada, den=Denmark, fin=Finland, fra=France, ger=Germany, ire=Ireland, ita=Italia, jpn=Japan, nld=Netherlands, nzl=New Zealand, nor=Norway, swe=Sweden, swi=Switzerland, u.kU.K and u.s=U.S.A.

The first important detail in Table 9 is the method and data used for the replication of the decommodification index. The data, as described in section 1.3.3, is not the same as used by Esping-Andersen for 1980. As previously mentioned the original data is still not publicly available and instead the data and coding done by Scruggs & Allan (2006) is used. If you compare Table 3 and 9 with the decommodification index's score for 1980 it is apparent that the individual countries' scores are different. Without access to the original data I can't be sure if this is due to inconsistencies in Esping-Andersen's dataset. On the other hand Scruggs (2006) identified a few calculation errors based on the data presented in the books, but not enough to explain the vast difference in the replication. The conclusion that I draw from this is that the use of different data sources cause the majority of changes. Data used by Scruggs & Allan (2006) and their contemporaries is publicly available and has been exposed to thorough peer reviews. Therefore the data source is considered more reliable. The replication of a clustering of states is not the aim of this paper, but rather the measuring of decommodification and improvement of the index and what it measures in a modern welfare state. This task is better tackled with publicly available data, as used in chapter 1.3, which can be used to compare the different approaches using the same data source.

Secondly, the method I use for scoring removes cutoff points. In the original index's method the scoring was based on the standard deviation of the mean. This method only awards scores based on how many standard deviations away from the lowest cutoff point in whole numbers an indicator's raw data was. With my chosen approach building on the codebook of Scruggs et al., (2014) I allow for two point decimal numbers change to the scoring of all three indices. In other words, if an indicator changes by 1.5 standard deviations the score will change by 1.5 instead of 1.0.

The purpose of Table 9 is to illustrate the difference in scoring for the my new decommodification index and how it has changed states' ranks in comparison to the decommodification (Esping-Andersen 1990) and generosity index (Scruggs & Allan 2006) in 1980. One standout example for 1980 is France. In the original decommodification index it is ranked 10th, 7th in the generosity index and 4th in my new decommodification index. France's increase in rank in the generosity index is attributed to the addition of indicators for family and

couples' replacement rates in the unemployment and pension benefits programs' indicators. In the new decommodification index a more generous overall system for both genders is the subsequent reasons for this increase of rank in comparison to the older indices. This is especially apparent when looking at the raw data for *job protected* and *paid leave* in Table 8. France had 120 weeks of *job protected leave* and 16 weeks *paid leave* in 1980. Compared to the mean score of 33.9 weeks protected leave, it gives them a maximum score for that year on this indicator. For *paid leave* the mean is 18.72 and with 16 weeks *paid leave* puts them close to the mean score for this indicator. This gives them a sizable score boost and illustrates the new index's viability when it comes to incorporating the importance of female decommodifying welfare policies. Taken into account the timeframe of the available data is 1971-2002 the changes from the generosity index and the original decommodification index paints a very different picture across time as seen in part 2.

The added dimension of family welfare policies is here shown to add substantial changes to the measure of decommodification. The effect of these changes should have a significant effect across panels and across time when checking for what explains increased decommodification in part 2 of this thesis.

1.4.2 Explanatory power and conclusion

In this section I set out to establish how the new decommodification index compares to the older ones and if the weighting of my new indicators has any significance comparing it to non-weighted indicators. To test this I have used the *active female workforce* variable from chapter 1.3 as a dependent variable. A truly decommodified state, as supported by Huo et al. (2008), has a higher degree of active labor and should according to my results in chapter 1.3 have a stronger effect on female labor when including decommodifying welfare policies directed towards women.

In Table 10 there are four models with one index each as the independent variables. They are Esping-Andersen's (1990) decommodification index, Scruggs & Allan's (2006) generosity index, my new decommodification index with a weighted family welfare policies indicator and the last model is without the weighting of family welfare policies. All eighteen OECD countries and the

1971-02 timespan, as used in chapter 1.3, is present in table 10 using the same analytical method as described in section 1.3.2.

Table 10: Indices explanatory power on active female labor

VARIABLES	Decommodification	Generosity	New Decom*2	New Decom
decom	0.10 (0.17)			
generosity		0.11 (0.09)*		
newdecom			0.13 (0.01)**	
newdecom2				0.13 (0.03)**
Constant	51.95 (0.00)***	51.91 (0.00)***	50.10 (0.00)***	50.77 (0.00)***
Number of groups	18	18	18	18
N	572	570	570	570
Rho	.98	.98	.98	.98
R-Square	.319	.328	.353	.348

Level of significance: ***=.01, **=.05, *=.10

When comparing the coefficients in each model both of the older indices have a lower effect on *active female labor* and their value range is smaller²³. Both of the versions of the new decommodification index are significant within a 5-percent level, but the old indices are not within a 5-percent level of significance. The new index with weighted indicators have a coefficient of 0.13 and with a value range of 45.67 it yields a predicted total effect of 5.94 on the active female workforce if it were to change from minimum to maximum value. The model without weighted indicators, but with an identical coefficient, yields a total effect on the dependent variable of 5.15. This is cause by the shorter value range of 39.6 even though the coefficient is the same. With a higher R-squared score than the other models, the results for the new decommodification index with weighted indicators supports its use in favor of older indices.

²³ Value range from the replication of the original decommodification index is 28.86 and the generosity index is 34.34.

This analysis gives me supportive evidence for my new index's higher explanatory power on female employment, and because of that a stronger measure of female decommodification overall. The theoretical definition is supported by empirical findings and secures a higher degree of operational validity. In perspective of feminist scholars' critique of the decommodification index this should alleviate the problem of gender blindness. This makes the new measure of decommodification viable as an argument for the implementation of decommodifying family welfare policies to increase female labor participation.

Part 2

2.1 Introduction

In this second part of the thesis the focus will be on what has an effect on decommodification. What is answered here is the second part of the research question presented in the introduction in part 1: *...what socioeconomic and political factors explain decommodification when female decommodification has been accounted for?*

To answer this in the light of my findings on what constitutes what I reasonably mean is a more precise measure of decommodification. I will focus on established theories on what socioeconomic and political forces have an effect on decommodification. Esping-Andersen's (1990) findings, where a political left and an elderly population is the main driving forces, have often been quoted and referred to but also critiqued for its lacking time dimension for the data. Scruggs & Allan's (2006) data has made it possible in recent years to uncover more complex causal relations between these forces and decommodification. The problem as I see it with the approaches used is that it still uses either the original decommodification coding or the generosity coding that I have shown to be lacking operational validity. By using my new decommodification index²⁴ as the dependent variable for analysis of established theories and causalities the end result will be a higher degree of validity for what truly has an effect on decommodification. In my own previous assignments I have tested Esping-Andersen's own theories on what causes decommodification with Scruggs & Allan's (2006) replication of the original index. I have found the results to be wanting, lacking both my own added dimension to the new index and a higher count of explanatory variables. In this thesis I have been able to remedy this and my results give a more complex picture of decommodification and the welfare state.

To present an answer to this conundrum I will first go through the established theories that create the basis for hypotheses on what affects decommodification. Then I present the hypotheses, data,

²⁴ The new decommodification index takes into account the importance of welfare policies directed towards women as part of the measure of decommodification

method and results. Following this the analysis and discussion of the results with a final conclusion before a summary of the whole thesis rounds out this paper in part 3.

2.2 Causes of Decommodification

2.2.1 Classic research on what affects decommodification

In Esping-Andersen's (1990:111-13) own work he tests what causes changes on his own index with well-founded hypotheses. For political forces he expects social democratic governments to have a significant positive effect on decommodification. The reasoning behind it is that the goal of such a political party is to secure benefits of the working class and create a universal welfare system for all classes so not to create conflict between the middle and working class. Because of political domination from the left side of politics in highly decommodified welfare states the hypothesis was an expected positive effect from cabinets dominated by left leaning parties. The second assumption he made was that conservative religious forces with its focus on family could have a positive effect on decommodification. He suggested using catholic parties in the same way as left leaning parties, but because of lacking data population statistics were used. To control for demographic differences, socioeconomic effects and levels of industrialization he used percentage of population over 65 years and GDP per capita as explanatory variables. Proportion of the population 65 years or older were assumed to have a positive effect on pension benefits because of the higher pressure on a pension system with a high proportion of the population with voting power to pressure politicians. For industrialization in the form of GDP per capita a highly evolved industrialized society would have a high proportion of its population as part of the working class and therefore higher pressure from a large left leaning populace. For 1980 this would be reasonable approach but for current societies there is population migration away from the working class into the middle class and information based industries. Historic heritage was controlled for by using a measure for the level of absolutism for the year 1900 and was expected to have a negative effect on decommodification. Liberalism was controlled for by using share of GDP going to means-tested social benefits on the assumption that liberal states would follow the typical liberal welfare state typology of relying heavily on such programs.

Of these hypotheses left leaning parties and share of total population above 65 years of age was shown to be significant on the basis of the data at hand. Their positive effect on

decommodification is well founded in his argument and when we look at the social democratic welfare regimes they have the highest score on the index and the explanatory variables are statistically significant. The problem with these findings is that they are based on data without a time series and does not represent what causes change across time. Furthermore there are more theoretically founded candidates in modern comparative politics that should be added as explanatory variables and other effects that should be controlled for. Older work than Esping-Andersen's are also in conflict with the assumption that political parties have an effect on the welfare state. In Wilensky's paper from 1971 he shows with that time's current method and data that political parties has no effect on the welfare state, as measured by social expenditure as percentage of GDP, and that rather GDP per capita and the average age of the population are the main driving forces. However Douglas Hibbs' findings support the hypotheses of left leaning political parties' effect on the welfare state and he also claims there is a negative effect from these parties on unemployment and inflation (Verba, Nie & Kim 1978: 2-4). There are in other words many different studies on this topic that have resulted in wildly differing conclusions dependent of their operationalization of concepts and methods used.

Even though Esping-Andersen's research was conducted with current data for its time it was already contested before it was published. The field of welfare state research was at the time in 1990, and since been greatly influenced by his work. Later studies, as I will present in the next chapter, have used data from the same countries in his index but with a longer time-span and different data sources.

2.2.2 Modern research on what affects decommodification and the welfare state

The research presented in *Decommodification and Activation in Social Democratic Policy: Resolving the Paradox* (Huo et al. 2008) introduced work activating policies and high degrees of decommodification as variables that worked in tandem to create high workforce participation. This was the basis for my empirical study of what welfare policies affect female workforce participation in part 1. In the same paper they present conclusive evidence for what has an effect on decommodification. Results were achieved by using the coding for the decommodification index and indicators with data and coding from the *Comparative Welfare Entitlements Dataset 1* (2014) for the time period 1971-2000. In contrast to Esping-Andersen's (1990) own research,

social democratic and left leaning parties were not the only driving force behind generous welfare programs as a whole. High long term replacement rates, generous social security, payroll taxes and strong employment protection that have historically lowered employment are associated with Christian democratic parties. The neoliberal view of social democratic and generous welfare states as a system that fuels labor market exits is incorrect according to the paper. However typical social democratic policies are high short term replacement rates and active labor market spending policies and are shown to have a strong positive effect on lowering unemployment rates (Huo, Nelson & Stephens 2008:2, 12).

The findings related to Christian democratic parties' effect on welfare policies is not damning for Esping-Andersen's assumption that catholic political parties are positively correlated with decommodification. The Christian parties can still be viewed as a conservative force but has different socioeconomic liberal leanings in different countries. A Christian in a liberal state such as the U.K. has the potential to have substantially different values across time than a similar party in a social democratic or conservative country. To find uniformity across countries for a conservative party the catholic parties are better suited as an explanatory variable. They carry the same common values across state borders from a common conservative centralized power in the Vatican. This is not to say that they carry necessarily identical values, but they are still better suited for comparability across time and panels. Social democratic states and parties' link to highly decommodified welfare regimes are well documented (Esping-Andersen 1990, 1999; Huo et al. 2008; Danforth 2010). The question is if their effect of decommodifying welfare policies holds true when adding the welfare policies directed at women's issues.

2.2.3 Causes of female decommodification

In part 1 I showed that family welfare policies were especially important for commodifying women. Therefore it's highly significant for the decommodification of women because of the limitation it sets for benefits, such as higher levels of pension and unemployment replacement rates, which they can't access without employment (Orloff 1993).

In available data for job protected and paid paternity leave there is a steady growth of these rights with a high correlation to the other welfare programs as they develop. But what can explain the

growth of these programs independently from the others is not well documented in a large time sample (T) study. In section 1.2.6 I showed examples of studies done on the subject of family welfare programs and female employment and their lack of large T. For what socioeconomic and political forces that affect family welfare programs I face a similar problem. The literature on this subject is lacking and the majority of studies has a small sample size and is focused on what welfare programs affects female employment and not what causes the development of family welfare programs. The two closest things to this approach is the way comparative welfare state researchers have looked at how women's political mobilization has had an effect on the existing welfare programs, and how the increasing female workforce participation prompted the initial development of family welfare programs in the 1960s (Huo et al. 2008; Huber & Stephens 2006:156-158).

To find valid theoretical foundations for hypotheses on what explains my new index I use existing research on what explains changes to the established generosity and decommodification indices and their indicators. This approach in combination with logically founded variables with expected effects on family welfare policies should help develop the hypotheses and give greater insight. The closest to this criteria in existing literature that validates a distinct female political effect, is women's mobilization's²⁵ positive effect on unemployment benefits and a negative effect on sick pay from Huo et al.'s (2008) paper. These results were significant within a 5-percent level and lack a reasonable theoretical explanation. A positive effect on unemployment benefits could be caused by a general surge of workers mobilization and not necessarily women's mobilization because of its operationalization. The predicted negative effect on sick pay is a perplexing problem and raises the question on how female mobilization can have a negative effect on sick pay? I suspect the use of the original decommodification scoring and the operationalization of women's political mobilization is the cause of this negative effect. Without indicators, as used with the generosity index, for families and couple's replacement rates a lot of information is lost. In essence the estimations in their study ignore any effect women might have on policies directed specifically at women and their rights.

²⁵ Women joining non-religious organizations including unions.

My assumption based the somewhat lacking available literature on this field is that the female political mobilization and female workforce participation should have an explanatory effect on family welfare programs. Not necessarily a statistically significant effect on its own, but as an explanatory variable that at least control for women's political influence on the welfare state and therefore my new decommodification index as a whole.

2.3 Hypotheses, method and data

2.3.1 Hypotheses on what has an effect on the new decommodification index.

My new index measures what I claim is a decommodification index that removes the gender blindness, or in the very least adds a dimension that captures family welfare policies important for female decommodification. When developing hypotheses developed to explain this new index I aimed to test these in competing models with my new index, the generosity and the decommodification indices. The hypotheses presented here is for testing with the new index, but the result from the regression analysis will show it in comparison to the older indices.

In the short literature review on the field of decommodification and family welfare policies in sections 2.2.1-3 I established a basic premise for the development of hypotheses and likely candidates for explanatory variables.

Esping-Andersen's own hypotheses for political influence, demographic effects and economic development are still highly relevant for a revised measure of decommodification. The benefit of more comprehensive data and added indicators should give a better understanding of what has an effect on decommodification.

H1: Left leaning parties have a positive effect on decommodification

When including the new dimension of family welfare policies into the new index the overall positive effect is expected to keep its significance. States with social democratic party dominance in the cabinet ranks among the highest overall in the new index and are also the most generous when it comes to family welfare policies. With many modern studies on this issue, as seen in section 2.2.2, showing that left leaning parties have a strong positive effect on decommodification the results are expected to stay the same. What I find interesting is to see how

they affect family welfare policies and overall decommodification when I control for female political influence and active female labor. My expectations is that for the indicator for family welfare policies is that when controlling for female proportional cabinet members and female labor the effect from left leaning parties will be diminished.

H2: Conservative parties have a positive effect on decommodification

Esping-Andersen's (1990) own findings, using the fraction of the population that is catholic, show a lack of an effect on the decommodification index. However in the paper of Huo et al. (2008) there is an overall effect on decommodification from Christian parties and specifically on the indicators for pension and unemployment. Their research also shows no significant effect on sick pay. These results are based on Christian parties and therefore it might not be capturing uniformed conservative values because of the splintering between Christian parties' values in different countries. Still on the basis of Huo et al. (2008) the effect from conservative parties are expected to be positive and significant on the overall index, but because of the inclusion of family welfare policies, not a traditional religious conservative priority, the effect should be weaker than for the other indices

H3: The proportion of the population above 65 years of age has no effect on decommodification.

In the original work by Esping-Andersen (1990) the effect of the age demographics was shown to be significant and positively correlated with decommodification. This was explained by the need of a more generous and comprehensive pension program when higher proportions of the population reached retirement age. This assumption is well founded and seems logical, but age demographics have been shown to have little to no effect on decommodification or generosity of pension programs when looking at data using a longer time period with the same eighteen OECD countries (Huo et al. 2008). Pension programs has so far not been proven to have any correlation with a state's age demographic, but is added here to control for the effect an aged population has on welfare programs as part of the index.

H4: Women's active political participation has a positive effect on decommodification

Previous research on the positive effect of women's mobilization on family welfare policies has not been confirmed by analysis, but the effect on Esping-Andersen's decommodification index has been shown to not have a significant coherence (Huo, Nelson & Stephens 2008). Still the inclusion of women as active members of parliament and increasing need for labor from both genders should logically have a positive effect on a decommodification index including family welfare policies. When women come into a position of power where they can change the system to benefit interests of women, the most important welfare policies to keep them commodified to get higher levels of welfare benefits, would be especially high on the agenda. According to my own analysis in part one and backed by others work with descriptive statistics the reasoning for the hypothesis is sound (Esping-Andersen 2009).

H5: Economic development has no effect on decommodification

On the topic of economic development the research has been divided before and after *the three worlds of welfare capitalism*. In the literature review in chapter 2.2.1 the conflicting views are apparent. The effect of economic development or industrialization has been measured by GDP per capita in all cases and has given different results. The conflicting argument presented by Wilensky²⁶ is that GDP per capita explains the development of a generous welfare state and not political parties. In Esping-Andersen's own work he finds no relationship between decommodification and economic development. In later research in the field there is still no apparent explanatory effect (Huo et al. 2008). The value of including this hypothesis is to control for economic development's effect on family welfare policies. In the data in Table 9 for the indicators for family welfare policies in the new index it is apparent that highly scored states are among those with highest GDP per capita. My assumption is that it will not change the significance of its coefficient, but control for economic development so not to overestimate the effect of political variables.

H6: Unemployment has a negative effect on decommodification

²⁶ Wilensky used percent of social expenditure as percentage of GDP to measure welfare generosity (Verba, Nie & Kim 1978: 2-4).

Unemployment has not historically been linked to highly decommodified states. It's rather a byproduct of conservative welfare states with focus on high levels of long term replacement rates, generous social security, payroll taxes and strong employment protection (Huo et al. 2008). In states with high unemployment and conservative or liberal values I expect a weaker political pressure for more generous family welfare policies. Overall, as discussed in section 2.2.3, the effect of unemployment on decommodification is not there, and I expect it to be even less so when including family welfare policies. Family welfare policies with job protection and income replacement would not be viable if women were not already commodified and in need of these programs. In other words, the addition of decommodifying policies for women should further prove that unemployment rates does not affect decommodifying policies in anyway.

Testing these hypotheses will create a better understanding of the capitalist welfare states' development and decommodification including family welfare policies. The new decommodification index gives me the opportunity to test established theories where the effect from female decommodification has been omitted. The validation of these hypotheses will strengthen the field, and the rejection will hopefully start a discussion and further research.

2.3.2 Method

In chapter 1.3 we saw that the models in the multiple regression analysis did not meet OLS preconditions and in chapter 2.4 the models have many of the same problems as in part 1, with omitted variable bias, heteroskedasticity between panels, first-order autocorrelation and the normality of the residuals. To tackle these problems I use the same analytical approach as described in section 1.3.2. The only difference for the models in chapter 2.4 is that they all include a time-invariant variable in the form of authoritarian legacy.

As in part 1 a Prais-Winsten estimation with FGSL estimates, first-order autocorrelation specification and within panels-corrected standard errors are applied to all models to correct for the problems with the OLS preconditions. Furthermore to increase the robustness of the analysis and address the problem of non-linearity I control for interaction effects. The benefit of this is that it identifies curvilinear effects between independent variables. This enables you to identify at what point the significant effect diminishes or strengthens for one variable dependent on the

effect from a second variable (Kam & Franzese 2007). As shown in the analysis in chapter 2.4 this strengthens the understanding of how decommodification is affected and the overall robustness of the analysis.

2.3.3 Data

The data used in the regression analysis is TSCS-data for the year 1971-2002 with the same eighteen OECD countries as used in part 1. The dependent variables used in the multiple regression models are the new decommodification index, generosity index and Esping-Andersen's original decommodification index. My new decommodification index's indicators for family welfare policies, unemployment benefits, sickness benefits and pension benefits are also used as dependent variables to understand better what welfare policies the independent variables affect. To give a complete overview of the variables used I will give an overview here with operational definition, coding description and sources.

Dependent variables:

Decommodification and the *generosity* indices is the complete score for each year and state as used in part one of this thesis. The underlying indicators for each index: unemployment benefits, sick pay and pension programs is also used as dependent variables in their own models as in part one. The source for this data is The Comparative Welfare Entitlements Dataset 1, from now referred to as CWED 1 (Scruggs et al. 2014).

New decom is my new measure for decommodification that includes family welfare policies to accommodate female decommodification. As explained in part 1 this is based on the generosity index and its data (CWED 1), but with an added family welfare policy dimension based on data from *Details of Change in parental leave by country OECD* (OECDa 2014).

Family welfare policies are based on indicators for job protected weeks of paternity leave and paid weeks paternity leave that constitute the scoring basis for family welfare policies as part of the new index. Coding of both the new index and this new dimension has been done by me in part 1 by adapting the generosity coding to include these new indicators. As an operationalization of family welfare policies based on both my own findings and others, as discussed in the literature review in part 1, the variable carries strong validity. The omission of publicly funded

daycare is necessary because of the lack of data available. But this researcher is confident that with such a large T and N sample with this operationalization the analysis will give results explaining family welfare policies, and by that female de commodification. The source for this data is *Details of Change in parental leave by country OECD* (OECDa 2014).

All independent variables are centered so that the constant represent the minimum value and not an absolute zero which none of these variables are characterized by. By doing this recoding the coefficients and significance of the independent variables are not affected. The constant on the other hand is easier to interpret and now represent an interpretable value rather than a prediction of what the dependent variables' value is if the independent variables had at any point a null value.

Explanatory variables:

Left cumulative cabinet members is a variable that is taken from Huber, Ragin, Stephens, Brady & Beckfield's (2004) Comparative Welfare States Data. It measures the cumulative percentage of left leaning representatives in the cabinet from 1946 to the year of the data point. The coding is done by adding each year's percent in 0-1.0 of left leaning cabinet members from 1946 to any consecutive year (Code Book, Huber et al. 2004: 32). The use of this variable is consistent with measuring dominant left leaning political forces effect on the dependent variables over time and across states. Data is publically available in the Comparative Welfare States Dataset from now referred to as CWSD (Huber et al. 2004).

Christian cumulative cabinet members is coded identical to left cumulative cabinet members, but instead measures the cumulative percentage over time for Christian democratic parties. The variable is used to see what the effect from conservative political forces have on de commodification over time. This variable is not ideal, in my opinion, for measuring the effect on de commodification from a unified conservative force. Differences across Christian political party values differ across countries and the variable does ignore the Catholic conservative parties.

Still as a variable representing a common conservative political force it is the only variable that covers more than just the catholic countries²⁷.

Female cumulative cabinet members is the cumulative percentage of female representative in the cabinet from 1946 to the year for the data. The coding used is the same as for left cumulative cabinet members. To operationalize women's political mobilization I first considered using this data in combination with female participation in NGO's and other non-religious organization, as used by Huo, Nelson & Stephens (2008). The problem is that the available data for the eighteen countries and the 1971-2002 timespan is lacking and therefore a compromise had to be made. The cumulative female representation in the cabinet does not capture the grass root movements, but is a good indicator, in my opinion, of female active participation in the political system. Therefore, if women guard their own self-interests, and if those interests are the decommodification of women to secure their place as a commodified worker to receive higher levels of welfare replacement rates, an effect on family welfare policies' generosity should be present.

Population aged 65+ is the operationalization of the demographic effect of increased proportions of the population aged and potentially pensioned. This variable is not a measure of the population receiving pension benefits, but rather the percentage of total population that potentially are receiving or will be dependent on it soon. Pension age varies across states so to create a unified variable that measures this exactly is neither easy nor necessarily wanted. This is ideal because the main goal here is to test for the demographic effect of an aged population and not those who benefit from pension programs. The chosen operationalization is best suited for the task of identifying if an increasing proportion of elderly has an effect on decommodification and more specifically on pension welfare programs.

Unemployment rates are the percentage of the population unemployed, not counting people on social security not able to work because of health reasons. This variable will identify if there is an

²⁷ The variable for catholic political parties shows only substantial activity in catholic countries. Christian parties are spread out evenly across all eighteen OECD states and make them more ideal for explaining decommodification.

effect from unemployment levels on decommodification. In the literature review in chapter 2.2 the effect was shown not to be there for Esping-Andersen's (1990) decommodification index. What is interesting is if this has any significant effect when including my new family welfare indicator. I do not expect it to be significant, but to control for the possible negative effect of conservative political parties, in the form of Catholic cabinet members and Christian cabinet members, unemployment rates is a necessity to identify if this is a political effect rather than just a welfare regime specific effect.

GDP per capita in thousands is used to explain if economic development and industrialization has had an effect on welfare policies. When looking at the data for the 18 OECD countries the social democratic welfare regimes have higher GDP per capita in comparison to the majority of the countries. They also rank at the top for highest decommodification score on all indices, but this is not conclusive evidence of a highly significant relationship between the two variables. Looking at the U.S.A and Australia, on the other end of the decommodification spectrum, they are also scored among the top countries for GDP per capita. This variable is a well-tested and thoroughly peer reviewed representation of economic and industrial growth.

Control variables:

Catholic cumulative cabinet members coding and source is the same as left majority cabinet members but with catholic parties. By using catholic parties, as discussed in chapter 2.2.2, the variable is better suited for testing a consistent conservative effect across states. Because of the nature of the Catholic Church's hierarchy with a centralized power in the Vatican the variable is better suited as an operationalization of conservative political forces that are comparable across state borders. A problem for this variable is that Catholic parties are mostly limited to Catholic countries. By using Catholic cumulative parties as a control variable in addition to Christian parties, I will be able to control for the effect of catholic conservative parties and distinguish the effect from Christian conservatives.

Authoritarian legacy is based on the status of authoritarianism in 1900 in each country and is coded: 0 for full *democracy with full male suffrage and cabinet responsibility vested in an elected parliament or executive*, 1 for *partial authoritarianism, limited democracy* consisting of all the same categories as for full democracy but with partial male suffrage and 3 for full

authoritarianism consisting of no democracy and no or insignificant suffrage (Huber et al. 2004:35). The purpose of using this variable is to control for historical heritage and possibly eliminate or minimize the danger of drawing the wrong conclusion from estimates that have ignored the historical aspects.

In Esping-Andersen's (1990) own work he applied this to control for historical heritage in the form of absolutism. With the limited time series at the time there was not identified any coherence. In later works with a longer time series the same conclusion holds true, but there is a statistically significant positive effect on sick pay (Huo, Nelson & Stephens 2008). However the cause of this correlation is hard to explain theoretically. An authoritarian legacy is most commonly linked to corporatist states and etatism where benefits are a reward for service to the state, and not a higher coverage and generosity from welfare programs. What is more likely is that authoritarian heritage is linked to an effect from conservative family values prevalent in states with an authoritarian legacy.

Union density is the percentage of the active working population that are members of unions. This variable is meant to control for the unions' effect on welfare policies to differentiate the effect from the political parties' variables. It is not unlikely that in some countries the growth of unionization has had a bigger impact on the welfare state than the changes to the ruling government.

L4.Active female labor is the same variable used as a dependent variable in part one for active female labor as percentage of total working age women that are employed. In the case of its use as a control variable it operates with a four year lag and because of this the timespan used is 1967-1998. The four year lag was chosen to coincide as close as possible with the four year election cycle of most countries and give the effect of increasing numbers of female workers time to manifest. There are however ten missing data points for the time period 1967-1975, where eight are from the Netherlands and the rest from Denmark and Austria. The practical use of the variable is to control for the potential fallacy in the assumption that political female representation, in the form of female cumulative cabinet members, has an effect on welfare policies, when the real effect is from an increase in active female labor and political

accommodation to meet their welfare needs. In other words, what came first? The effect from female workers or female politicians?

The source for both explanatory and control variables is the Comparative Welfare States Dataset (2004). This collection of data is well established and has gathered over the years a comprehensive set of welfare state variables from different sources for comparative studies. The benefit of using such an established source is that it has been revised and corrected over the years. It has also shown to be reliable in a wealth of articles examining the relations between different aspects of the welfare states and socioeconomic relations and political effects. This secures a high degree of reliability for the data and limits the possibility of drawing the wrong conclusion based on badly coded data or errors in the collecting of the data.

In Table 11 descriptive statistics for the new variables are presented. The variables reused from part one of this paper is not added, and are used in the same form as in Table 4. All variables in the multiple regression analysis are centered, but this only has an effect on the constant of the analysis, and not the coefficients and significance. The variance and standard deviation also stay the same as in Table 11.

Table 11: Descriptive statistics for all variables in 18 OECD countries 1971-2002

	N	Minimum	Maximum	Mean	Std. deviation
<i>New Decom</i>	574	15.71	61.38	35.97	9.75
<i>Family welfare policies</i>	576	3.87	16	8.74	3.76
<i>Left cumulative cabinet members</i>	576	0	46.86	13.11	10.80
<i>Christian cumulative cabinet members</i>	576	0	13.89	0.63	2.34
<i>Catholic cumulative cabinet members</i>	576	0	38.81	4.24	9.16
<i>Female cumulative cabinet members</i>	576	0.04	22.69	7.17	5.30
<i>Population aged 65+ %</i>	571	6.36	30.74	13.57	3.61
<i>GDP per capita</i>	576	8516.47	40822.72	22229.26	6251.55
<i>Unemployment rates</i>	576	0	16.83	5.90	3.38
<i>Authoritarian legacy</i>	576	1	3	1.95	0.85
<i>Union density</i>	576	7.94	87.44	43.69	19.31
<i>L4.Active female labor</i>	566	20.98	80.92	56.06	11.70

Source: CWED 1 Scruggs et al. (2014), CWSO Huber et al. (2004), OECDa (2014).

2.3.4 Models and OLS preconditions

In chapter 2.4 I will present my results from my regression analysis, but to give a better overview of the models I will here present the models and the OLS preconditions that the models do not meet. This is to secure transparency on what the problems are and then for the reader to look back at the chosen method to either agree with my approach to handle these problems, or to have the information to critique my method and possibly improve upon it in their own research projects.

The models presented in the next chapter are divided into three different tables. In Table 12 I use the independent variables with each of the indices as dependent variables to be able to see the different explanatory effects they have in contrast to each other. In Table 13 the same models are repeated but without the Scandinavian countries. By doing this I will be able to get a better understanding of the overall effect the social democratic states have on the results in Table 12. Furthermore it will determine if political parties, female cabinet members and female workforce participation have an effect when I remove the countries with the highest values for these variables. In other words, does the effect from these variables exist even in countries without social democratic welfare regimes where they are predominant? Still the results in table 13 can only be looked at as exploratory and is only used to possibly strengthen the results from table 12.

In Table 14 the indicators for family welfare, unemployment, sick pay and pension benefits from my new decommodification index are used as dependent variable in their own models with the same independent variables across all models as in Table 12 and 13. The benefit of splitting the index up into these different elements is that the significant effect from the previous models can be pinpointed to individual welfare programs.

The breach of OLS preconditions for the models in Table 12 and 13 are in almost all instances identical. Heteroskedasticity between panels and first-order autocorrelation is a problem for all models in both tables and can, if ignored, cause wrong estimates of standard deviations and incorrect significance tests (Skog 2010:246-48, 250-52). Both models 2 and 3 fail the test for the normality of the residuals in Table 12 and in Table 13 models 1 and 2 fails the test. The consequence of this if ignored is potentially incorrect significance tests that can make variables seem more or less significant than they actually are. This is a problem mostly for models with small N, something that is not a problem for my models with its high count of observations (Skog 2010:249-50). Multicollinearity can cause wrong estimates of standard errors and the overall

explanatory power of the models will be artificially high. This is caused by correlations between independent variables that make it difficult to identify the correct regression coefficient of the individual variable (Midtbø 2012:128-29). For all my models in table 12 and 13 tests²⁸ for multicollinearity is within acceptable levels and shows that this is not a problem for the models.

The biggest problem for any regression model is if it breaches the preconditions of linearity. If one ignores this problem the model will have incorrect coefficients, standard errors and significance tests. In other words, the results are no longer to be trusted at any level. To identify if there is a problem with linearity for the model a simple graphical and statistical test can identify if and what independent variables have a non-linear relation to the dependent variable (Skog 2010:237-39). In the case of my models the different statistical tests²⁹ used are inconclusive for models 1 and 3 in Table 12 and 13. Model 2 show clear non-linearity in Table 12 and 13. By examining each individual independent variable's linear relation to the dependent variable there is signs of a breach of the linearity precondition even for models 1 and 3. For all tables and models there is a weak, but clear curvilinear relation between female cumulative cabinet members and the dependent variables. As mentioned in section 2.3.2 this problem is handled by testing using interaction effects, and more specifically the interaction effect from left leaning cumulative cabinet members on female cumulative cabinet members.

In Table 14 the breach of OLS preconditions are again almost identical across all models. Heteroskedasticity between panels and first order autocorrelation is a problem for all models. Normality of the residual is a problem for models 1, 2 and 3, and multicollinearity is not present in any of the models. The linearity tests are inconclusive for models 1, 2 and 3. As with Tables 12 and 13 looking at the graphical linearity of female cumulative cabinet members there is a weak, but clear curvilinear effect from the variable. As in Tables 12 and 13 this is handled by using interaction effects in all models.

²⁸ VIF test in Stata 13

²⁹ Ovtest and linktest in Stata 13.

2.4 Summarizing results for what causes a gender neutral decommodification

2.4.1 Socioeconomic and political effects on the indices

In this chapter I will present the statistical significant results from the tables examining the different indices and indicators from each index. First in Table 12 the three models show how the independent variables have an effect on the decommodification index, generosity index and my new gender neutral decommodification index. In Table 13 the same models are used without the Scandinavian countries.

Table 12: Socioeconomic and political influences on Decommodification indices

VARIABLES	Model 1 New Decom	Model 2 Generosity	Model 3 Decom
<i>Left cumulative cabinet members</i>	0.44 (0.00)***	0.39 (0.00)***	0.31 (0.00)***
<i>Christian democratic cumulative cabinet</i>	0.41 (0.12)	0.62 (0.01)**	0.50 (0.00)***
<i>Catholic cumulative cabinet members</i>	0.08 (0.20)	0.07 (0.15)	0.05 (0.18)
<i>Female cumulative cabinet members</i>	0.84 (0.00)***	0.60 (0.00)***	0.53 (0.00)***
<i>Female cumulative cabinet##Left cumulative cabinet</i>	-0.02 (0.01)**	-0.02 (0.00)***	-0.01 (0.05)**
<i>Population aged 65+</i>	0.09 (0.44)	0.03 (0.70)	-0.06 (0.43)
<i>GDP per capita</i>	0.00 (0.10)	0.00 (0.37)	0.00 (0.21)
<i>Unemployment rates</i>	0.13 (0.06)*	0.06 (0.27)	0.02 (0.62)
<i>Authoritarian legacy</i>	1.36 (0.12)	-0.49 (0.45)	0.24 (0.69)
<i>Union density</i>	0.09 (0.01)**	0.10 (0.00)***	0.06 (0.01)**
<i>L4.Active female labor</i>	0.04 (0.21)	0.03 (0.29)	0.00 (0.91)
Constant	16.00 (0.00)***	12.82 (0.00)***	16.57 (0.00)***
N	559	559	561
Number of groups	18	18	18
Rho	.942	.938	.928
R-Square	.53	.48	.59

Level of significance: ***=.01, **=.05, *=.10

In Table 12 *left cumulative cabinet members* is significant within a 5-percent level for all models. The highest effect is on the new decommodification index in model 1 with a coefficient of 0.44. With a value range of 46.86 the total predicted effect is 20.62. When looking at the effect from left cumulative cabinet members on the other two indices, it is clear that my new index is even more influenced by this variable. In other words, either family welfare policies added to the index is the cause of the increased effect or the increased value range of the new index is the culprit.

For *Christian cumulative cabinet members* the effect in models two and three stays within a 5-percent level of significance and with a strong positive effect on the generosity index and the original decommodification index. These results are consistent with the findings of Huo et al. (2008) where Christian parties had a positive effect on Esping-Andersen's total score for the decommodification index. My new index in model one is based on the generosity index, therefore the new indicators for family welfare policies seems to have a negative effect on Christian cumulative cabinet members that drops from 5-percent to a +10-percent significance level in model 1 when comparing it to model 2. More specifically, Christian cumulative cabinet members have no significant effect on the new decommodification index because of the added family welfare indicator.

For *female cumulative cabinet members* the coefficients are significant for all models within a 1-percent level. With a value range of 22.66 the predicted total effect on the dependent variables for model one through three in numerical order is 19.03, 16.60 and 12.01. These strong effects are misleading because of the models curvilinear relation to the variable. Looking at *Female cumulative cabinet###Left cumulative cabinet* the interaction effect from *left cumulative cabinet members* is significant and negative in all models. This means that as *left leaning cumulative cabinet members* increase with one point the effect from *female cumulative cabinet members* on the dependent variable diminishes by 0.02 in models 1 and 2, and 0.01 in model 3. In the section for interaction effects in the appendix a graphical representation of these effects are presented. There we can see that in model 1 the effect stops being significant when left leaning parties' score passes 25, when it reach 17 in model 2 and 18 in model 3. Furthermore with no tolerable significance level for *L4.Active female labor* the empiric evidence for the effect from female politicians, rather than female labor, is strengthened.

With a variable representing the cumulative representation over time this effect should be interpreted as time dependent, and not in the way that if there is an increase of fifteen female cabinet members in an election it would have a comparable effect to this estimate. This rather shows that female politicians have had a positive effect over time as their numbers in the cabinet have proportionately increased, but in countries with a long term dominant left leaning cabinet the effect is only there initially before reaching critical values removing their effect.

Unemployment rates is within a 10-percent significance level with a coefficient of 0.13 in model 1 that gives a total predicted effect of 2.19 with a value range of 16.83. *Union density* is significant within a 5-percent level in all models and with coefficients of 0.09, 0.10 and 0.06. With a value range of 79.5 the effects on the dependent variables are 7.16, 7.95 and 4.77. Comparing effects in model one unions are shown to have the weakest overall predicted total effect, but it still shows that they have a statistically significant positive impact on decommodification.

Interpreting R-squared is not an ideal way of comparing models, and especially when they are using different dependent variables. For model one and two where they share a lot of the same indicators, except for model one's use of a family welfare indicator, the interpretation of the numbers are more comparable. With an R-squared of .53 model 1 explains 5-percent more of the effect on the dependent variable than model two with an R-squared of .48. This only shows that the added indicator adds another dimension to the index and that the independent variables have an explanatory effect on this dimension. For all the models *rho* is high, but with an index covering such a spread of welfare policies this is to be expected. As explained in section 2.3.2 panel-corrected standard errors should alleviate this problem and the results presented in the table should be reliable.

Table 13: Socioeconomic and political influences omitting Scandinavia

VARIABLES	Model 1 New Decom	Model 2 Generosity	Model 3 Decom
<i>Left cumulative cabinet members</i>	0.39 (0.00)***	0.37 (0.00)***	0.31 (0.00)***
<i>Christian cumulative cabinet members</i>	0.31 (0.18)	0.52 (0.01)**	0.38 (0.00)
<i>Catholic cumulative cabinet members</i>	0.08 (0.16)	0.09 (0.03)**	0.05 (0.05)**
<i>Female cumulative cabinet members</i>	0.92 (0.00)***	0.85 (0.00)***	0.81 (0.00)***
<i>Female cumulative cabinet###Left cumulative cabinet</i>	-0.02 (0.13)	-0.03 (0.00)***	-0.03 (0.00)
<i>Population aged 65+</i>	-0.08 (0.42)	-0.14 (0.05)**	-0.17 (0.00)***
<i>GDP per capita</i>	0.00 (0.01)**	0.00 (0.05)**	0.00 (0.04)**
<i>Unemployment rates</i>	0.20 (0.00)**	0.14 (0.02)**	0.07 (0.15)
<i>Authoritarian legacy</i>	1.95 (0.03)**	-0.70 (0.23)	0.11 (0.79)
<i>Union density</i>	0.04 (0.27)	0.04 (0.12)	0.00 (0.82)
<i>L4.Active female labor</i>	0.01 (0.87)	-0.01 (0.68)	-0.04 (0.20)
Constant	17.68 (0.00)***	15.10 (0.00)***	18.76 (0.00)***
N	464	464	466
Number of groups	15	15	15
Rho	.926	.910	.860
R-Squared	.49	.43	.64

Level of significance: ***=.01, **=.05, *=.10

When running the same models in Table 13, as in Table 12 without Scandinavia, the picture is somewhat different. *Left* and *female cumulative cabinet members* stay within a 5-percent significance level for all models with an increased strength for female cumulative cabinet members and a lower coefficient for left cumulative cabinet members. The interaction effect from left leaning parties on female cabinet members is no longer significant for models 1 and 2. By

omitting Scandinavia the effect of female cabinet members in model 1 is no longer diminished by left leaning parties, but this also raises the question if Christian and Catholic parties should be controlled for when the social democratic countries are removed from the models. To make sure that my results are not biased I have tested model 1 replacing the interaction effect of *left cumulative cabinet members* with both conservative parties in two different models. These models showed no significant changes in comparison to model 1 in Table 13 and secure the robustness of the results, but are not included in this thesis because of the lack of changes to the model. The results for model 1 in Table 13 now show that without the Scandinavian countries *female cumulative cabinet members* has a positive effect on my new decommodification index independent of political parties in these 15 OECD countries.

Population aged above 65 is now significant for models 2 and 3 with a negative effect on the generosity index and the original decommodification index. These results is in conflict with Esping-Andersen's (1990) assumption, as described in section 2.2.1, of a positive effect, but for model 1 with my new decommodification index, it fits later research with no significant effect (Huo et al. 2008). *GDP per capita* has now a significant effect on all models. Esping-Andersen's (1990) assumption that economic growth is correlated with decommodification is correct, when omitting the Scandinavian countries, but with a coefficient of 0.00009 in model 1 the total predicted effect with a value range 32306 is only 2.9. With the Scandinavian countries this is not significant and can't be interpreted as a confirmation of an empirical effect.

Unemployment rates are within a 5-percent significance level for model 1 and 2 with a positive coefficient of 0.20 and 0.14. *Authoritarian legacy* has a strong significant effect on model one with a coefficient of 1.95. *Union density* has no significant effect on any of the models in table 13. Both these variables change in significance can be explained by the omission of the Scandinavian countries. All three countries removed are scored at the top for the index scores, at the top for union density and at the bottom for authoritarian legacy.

R-Squared is lower in Table 13, but the explanatory power of the independent variables is still higher in model 1 than model 2. R-squared in model 3 is significantly higher than for the other models in both Table 12 and 13, but because of its complete gender blindness, as I'm trying to address with the new index, the explanatory power is irrelevant for comparison. Table 13 further

shows that my chosen independent variables have stronger coefficients in model 1, even though less of them are significant in comparison to the other models. This indicates that without the effect from the Scandinavian countries the added family welfare policy indicator is effected more strongly, but the overall models explanation of changes to the new decommodification index is lower than in Table 12.

The results in Table 13 seems to strengthen the empiric evidence for the effect *left cumulative cabinet members* and *female cumulative cabinet members* have on decommodification in model 1. The interaction effect is no longer significant and with the control variable for *active female labor*, the effect from female politicians rather than female labor is further strengthened. The omission of the Scandinavian countries is still shown to have a critical effect on *unemployment rates*, *authoritarian legacy* and *union density*. For the first two variables they are now significant in Table 13 within a 5-percent level with positive coefficients. *Union density* on the other hand loses its significance. The changes to the significance level for these variables are easily explained by the loss of information caused by omitting Scandinavia. All countries omitted are ranked at the top of the new decommodification index and all have the highest values for *union density*, low scores for authoritarian legacy and unemployment rates across all years. In other words, by omitting the outliers critical information is lost and the estimates can't be used for empirical testing. Still the results show that even without Scandinavia the strongest effects³⁰ from Table 12 still stay relevant and this do strengthen their empirical validity.

2.4.2 Socioeconomic and political effects on the indicators for new decom

In Table 14 the same independent variables as in the two previous tables are used to explain the changes to each indicator from the indices. From this a better understanding of the effects the independent variables on individual welfare policies will be evident.

³⁰ Left cumulative cabinet members and female cumulative cabinet members.

Table 14: Explaining individual welfare programs in 18 OECD countries

VARIABLES	Model 1 Family welfare	Model 2 Unemployment	Model 3 Sick pay	Model 4 Pension
<i>Left cumulative cabinet members</i>	0.05 (0.27)	0.05 (0.03)**	0.17 (0.00)***	0.14 (0.00)***
<i>Christian cumulative cabinet members</i>	-0.21 (0.01)**	0.34 (0.00)***	0.22 (0.02)**	0.09 (0.38)
<i>Catholic cumulative cabinet members</i>	0.01 (0.79)	0.00 (0.84)	-0.02 (0.48)	0.08 (0.00)***
<i>Female cumulative cabinet members</i>	0.24 (0.07)*	0.05 (0.35)	0.13 (0.26)	0.34 (0.00)***
<i>Female cumulative cabinet##Left cumulative cabinet</i>	0.00 (0.84)	0.00 (0.98)	-0.00 (0.03)**	-0.01 (0.00)***
<i>Population aged 65+</i>	0.04 (0.57)	0.07 (0.01)***	0.05 (0.24)	-0.17 (0.00)***
<i>GDP per capita</i>	0.00 (0.05)**	0.00 (0.01)**	-0.00 (0.39)	-0.00 (0.30)
<i>Unemployment rates</i>	0.07 (0.03)**	0.01 (0.68)	-0.05 (0.02)**	0.13 (0.00)***
<i>Authoritarian legacy</i>	1.81 (0.00)***	-0.81 (0.00)***	1.14 (0.00)***	-0.84 (0.00)***
<i>Union density</i>	-0.02 (0.17)	0.04 (0.00)***	0.03 (0.00)***	0.04 (0.01)***
<i>L4.Active female labor</i>	0.01 (0.47)	0.02 (0.11)	-0.02 (0.12)	0.04 (0.04)**
Constant	3.34 (0.00)***	3.45 (0.00)***	3.96 (0.00)***	6.09 (0.00)***
N	561	561	559	561
Number of groups	18	18	18	18
Rho	.940	.919	.957	.887
R-Squared	0.28	0.25	0.40	0.34

Level of significance: ***=.01, **=.05, *=.10

Left cumulative cabinet members is within a 5-percent significance level for model 2 and a 1-percent level for models 3 and 4. The coefficients and predicted effects are as follows: the coefficient's effect on *unemployment benefits* is 0.05 with a total predicted effect of 2.34, for sick

pay the coefficient is 0.12 with a total predicted effect of 5.62 and the coefficient's effect on pension is 0.06 with a total effect of 2.81³¹. This indicates that dominant left leaning parties explain a significant part of changes to *unemployment* benefits, *pension* benefits and *sick pay*. The absence of a significant effect on *family welfare policies* show that even though the social democratic welfare regimes have among the most generous family welfare programs, dominant left leaning parties and social democracy are not the main cause of this development in other regime types.

Christian cumulative cabinet members is within a 1-percent significance level for model 2 and a 5-percent level for models 1 and 3. In model 1 the coefficient is -0.21 and with a value range of 13.89 the total predicted negative effect on *family welfare* policies is -2.92. In model 2 with *unemployment* benefits the coefficient is 0.34 with a total predicted effect of 4.72. The coefficient in model 3 is 0.22 and predicts a total effect of 3.06 on *sick pay*. The absence of an effect on *pension* benefits is not consistent with recent research (Huo et al. 2008), but their use of the original decommodification index (Esping-Andersen 1990) and a lack of a control variable for Catholic parties can explain this discrepancy.

Catholic cumulative cabinet members is significant within a 1-percent level in model 4. The coefficient is 0.08 and with a value range of 38.81 the predicted total effect on *pension* benefits is 3.11. This result is consistent with the logical conclusion that conservative welfare state regimes do not categorize pension benefits as a decommodifying policy, and rather have a generous pension program despite having rising unemployment (Huber & Stephens 2006: 156-158).

Female cumulative cabinet members is significant within a 10-percent level in model 1 and a 1-percent level in model 4. The coefficient of 0.24 predicts in model 1 with a value range of 22.65 a total effect of 5.44 on *family welfare* policies. In model 4 the coefficient of 0.34 predicts a total effect of 7.70. However in model 4 the interaction effect from *Female cumulative cabinet###Left cumulative cabinet* is significant at a 1-percent level with a coefficient of -0.01. This tells us that for every point increase on *left leaning cumulative cabinet members* the effect from *female*

³¹ Value range is available in Table 4.

cumulative cabinet members' decreases by 0.01 points. Looking at the graphical interpretation of this interaction effect for model 4 in Table 14 in the appendix the cut off point for any significance is 22. This indicates that when left leaning parties reaches a value of 22 the effect of *female cumulative cabinet members* is no longer significant. These results show that of the cumulative cabinet variables, *female cumulative cabinet members* is the only variable that has a significant positive effect on family welfare policies. Because the significance is only within a 10-percent level this is not conclusive empirical evidence, but it still is an indication on female politicians' propensity to vote in their gender's self-interest.

Population aged 65+ is significant at a 1-percent level in models 2 and 4. In model 2 the coefficient is 0.07 and predicts with a value range of 24.38 a total effect of 1.71 on *unemployment* benefits. In model 4 it is -0.17 and predicts a negative total effect of -4.15. These results bring into question the validity of the model specification because it does not fit in anyway with the theoretical foundation of Esping-Andersen (1990) and Huo et al. (2008) research. The expectations were that a larger proportion of the population aged above 65 should have a positive effect on pension programs. Later research using the coding for the original decommodification index showed that there were no significant effects. The difference from these results and my own is that the indicator for *pension* benefits makes use of the coding from the generosity index that has an additional indicator for family and couples' pension replacement rates. Further investigation into the data shows that my results fits the development in the 1990's where the score for *pension* benefits starts to decrease, but the proportion of pension aged population kept increasing. This is in accordance to the belt-tightening policies in the 1990's spurred on by a fiscal concern in many of the OECD countries (Steinheilber 2003:246).

GDP per capita is significant within a 5-percent level in both models 1 and 2 and both with a coefficient of 0.0001. With a value range of 32306 the predicted total effect in both models are 3.23 on *family welfare* and *unemployment* benefits. These results are in conflict with recent documented research (Huo et al. 2008) that confirms Esping-Andersen's (1990) results of no significant effect from GDP per capita. Again the comparison is not evidence of an error of my estimates, but rather caused by the use of the generosity index (Scruggs & Allan 2006). As evident in Table 10 the new decommodification index and the generosity index scores in average

countries with high GDP per capita proportionally more generously than the older indices, but it also scores liberal welfare state regimes, like the U.S and the U.K that also have a high GDP per capita, proportionately lower. In other words, the use of the generosity index's indicators and the family welfare policies indicator creates a bigger decommodification gap between the top GDP per capita countries. This in turn strengthens the explanatory effect of *GDP per capita* for the top decommodified countries' effect on these indicators. This shows us that when using the generosity index's indicator GDP per capita can explain *unemployment* benefits, and in the case of *family welfare* policies it has an equally strong explanatory power.

Unemployment rates is significant within a 1-percent level in model 4 and a 5-percent level for models 1 and 3. The coefficient of 0.07 in model 1 with a value range of 16.83 predicts a total effect of 1.18 on family welfare policies. In model 3 the predicted effect on sick pay with a negative coefficient of -0.05 is -0.84. The negative effect on *sick pay* from *unemployment rates* is explained by rising unemployment rates in conservative and liberal welfare regimes that have less generous welfare programs for the sick. For family welfare policies the positive effect supports the results showing no significant effect from *left leaning cumulative parties*. Specifically that the generosity of these programs are not dependent social democratic welfare regimes with low rates of unemployment. In model 4 the coefficient is 0.13 which translates to a total predicted effect of 2.19 on *pension* benefits. This result is consistent with welfare regimes with higher unemployment rates in the form of conservative countries that still have generous pension benefits.

Authoritarian legacy stay consistent with the most recent work with the original decommodification index (Huo et al. 2008), but for unemployment and pension it shows a negative significant effect. The only logical explanation for this is that states with an authoritarian legacy mainly consist of conservative welfare states. Atypical for these kinds of states is minimal level of universal unemployment benefits and as expected a negative effect on the dependent variable in model two. For pension this logic is not viable and goes against the typical conservative welfare regimes pension policies. The only explanation for this is that by controlling for authoritarian legacy the contrasts between social democratic states with low scores for authoritarian legacy and high levels of pension benefits the historic effect comes out as a negative

effect for pension programs. For family welfare policies the positive effect again strengthens the viability of my other findings showing that these programs' increasing generosity is not a unique trait of social democratic regimes.

Union density is significant at a 1-percent level in models 2, 3 and 4. With coefficients in numeric order according to model numbers, 0.04, 0.03 and 0.04. With a total value range of 79.5 the predicted effects are 3.18 and 2.39. This shows that union participation has been important to the development of the generosity of unemployment benefits, sick pay and pension benefits.

L4.Active female labor is significant at a 5-percent level in model 4. The coefficient is 0.04 and with a value range of 59.94 the predicted total effect on *pension* benefits is 2.40. This results indicates that an increase in the proportion of female workers in comparison to those staying at home taking care of the elderly and children have a positive effect on pension benefits. In other words, when women become commodified the coverage rate on standard pension increase because now more workers qualify.

The constant is highly significant in all models and is interpreted as the level the value of dependent variable is predicted to be when all independent variables are at their minimum value. In the case of my four models the constants are significant at a 1-percent value and range from 3.34 to 6.09. Because of the data's starting point in 1971 this does not tell us much about what caused the initial development of the welfare policies, but gives a clear indicator on how a positive coefficient can have an effect on the total outcome of each indicator. With an r-squared of 0.25 to 0.40 for the models it is evident that the independent variables do not explain all the changes to the dependent variables. Even though the models do not explain all the changes to the dependent variables the results are still viable and should not be ignored. The method used with such a large N and T sample should still secure reliable results.

2.4.3 Summarizing the relevant results

I will here summarize the important findings from chapter 2.4.1-2 that is relevant to the hypotheses.

The results from the analysis of the total score for the new index in comparison to the old indices in Table 12 has shown that it is better suited for measuring what I choose to call gender neutral decommodification in comparison to the generosity index (Scruggs & Allan 2006). The original decommodification index (Esping-Andersen 1990) is overall better explained by my chosen independent variables, but this is no proof of its validity as a measure of decommodification without gender blindness, something clearly shown in part one of this thesis. Both *left cumulative cabinet members* and *female cumulative cabinet members*, the latter to a lower degree of significance, has shown the strongest positive effect on the new decommodification index. *Female cumulative cabinet members* however loses its significance when *left cumulative cabinet members* reach the value of 25, but it shows that they have an initial strong effect in countries where there is no or a lower level of left leaning party dominance³². *Unemployment rates* and *Union density* are both significant, but unemployment rates are only within a 10-percent level. Both have a positive effect on the decommodification index, but have a weak effect in comparison to the other two variables.

When examining the indicators for family welfare, unemployment benefits, sick pay and pension benefits the picture becomes more detailed. *Left cumulative cabinet members* has a positive effect on *unemployment* benefits, *sick pay* and *pension* benefits, but not on family welfare. *Christian cumulative cabinet members* has a positive effect on unemployment benefits and sick pay, but a negative effect on *family welfare* policies. *Catholic cumulative cabinet members* has only a positive effect on pension. *Female cumulative cabinet members* has a positive effect on

³² All Scandinavian countries stay above the 25 value on left leaning cumulative cabinet members from 1972-81. Therefore the effects from female cumulative cabinet members in these countries have a minimal effect because of the time series used.

family welfare policies³³ and *pension* benefits³⁴, but when controlling for interaction effects from high levels of left leaning party dominance the effect on pension benefits diminishes. What's interesting here is that until left party dominance reaches a relatively high level the strong effect of female representation stays significant for *pension* benefits. This shows that in countries without left leaning parties dominating the cabinet, for the timespan used in this thesis, *female cumulative cabinet members* is important and have a positive effect on pension welfare policies. *Population aged 65+* has a significant negative effect on pension benefits and a positive effect on unemployment. *GDP per capita* has a significant weak positive effect on *family welfare* policies and *unemployment* benefits. *Unemployment* rates have a positive effect on family welfare and pension benefits, but a negative effect on sick pay which can be attributed to lower levels of income replacement as a consequence of being unemployed and conservative welfare regimes' generous pension programs. *Union density* has a positive effect on unemployment benefits, sick pay and pension benefits. *L4.Active female labor* is shown to have a positive effect on pension benefits, but not on the total decommodification index score.

2.5 Hypotheses testing and conclusion

2.5.1 Reexamining the hypotheses in the light of the analysis

Before drawing a conclusion to the question on what causes decommodification when one includes family welfare programs I will here look at the hypotheses in the light of the data analysis using the new decommodification index.

H1: Left leaning parties have a positive effect on decommodification.

As evident from the analysis left leaning parties have a strong positive effect on the total score of decommodification. What is more interesting though is that the effect is only applicable to the indicators for pension benefits, sick pay and unemployment benefits. For family welfare policies the effect is not significant and the assumption that left leaning parties are the cause of welfare

³³ Within a 10-percent level.

³⁴ Within a 5-percent level.

policies that decommodifies women is erroneous. In other words, left leaning consecutive cabinet domination does increase overall decommodification, but they are not the cause of decommodifying policies that stimulate female commodification.

H2: Conservative parties have a positive effect on decommodification.

Christian party dominance is in the analysis shown to have no significant effect on the new decommodification index, but for the individual indicators there are significant effects. There is a clear negative effect on family welfare policies and positive effects on unemployment benefits and sick pay. Catholic cumulative cabinet members as a representation of a conservative political force in Catholic countries have no significant effect on the decommodification index, but a positive effect on pension benefits.

The hypothesis of an effect from conservative political parties on the overall decommodification index is rejected, but as for the effect on different welfare programs there is clear evidence of an effect. Most notably of them is the Christian party dominance's negative effect on family welfare policies.

H3: The proportion of the population above 65 years of age has no effect on decommodification.

The age demographic of a country has no significant effect on the new decommodification index. For the individual welfare programs it has a significant negative effect on pension benefits and a positive effect on unemployment benefits. The hypothesis is valid because of its lacking effect on overall decommodification, but also raises the question: why does pension generosity suffer when the population's average age increase? Looking at the data the only viable explanation is that the overall aged percentage of the population steadily increases over time for all countries and pension scoring decreases overall in the 1990's. This is caused by the fiscal concerns in the 1990's causing belt-tightening pension reforms stating that the population have to work for a longer time period to qualify for standard pension replacement rates (Steinhilber 2003:246).

H4: Women's active political participation has a positive effect on decommodification.

Active female politicians in the cabinet have a strong positive effect over time on decommodification, but they do lose their effect when left leaning parties dominate the cabinet

over longer periods of time. Therefore the hypothesis is confirmed and stands as evidence of an initial positive effect from female cumulative cabinet members on the new decommodification index independent of political party affiliation, but the effect is preconditioned on the basis of low levels of left leaning party dominance. For the separate indicators it shows the strongest positive effect on family welfare policies and pension benefits, the former within a weaker 10-percent level. For pension benefits the effect weakens and disappears completely when left leaning parties have been dominant for a long period of time. Still the analysis shows that the proportion of female cabinet representatives over time has a positive effect on pension benefits and family welfare policies and especially so when there is no dominant left leaning parties.

H5: Economic development has no effect on decommodification.

GDP per capita show no significant effect on my new decommodification index and has a weak, but positive effect on family welfare policies and unemployment benefits. The hypothesis is therefore confirmed. For unemployment benefits the cause of the significant effect, that defies documented research (Huo et al. 2008), is scoring of the indicator that creates a greater divide between top and bottom scored states that all have among the highest GDP per capita and growth. This can indicate that the effect from GDP per capita should be controlled for with a missing variable from the models that better explains unemployment benefits because of the conflicting results.

H6: Unemployment rates have a negative effect on decommodification.

Unemployment rates have a clear positive effect on the new decommodification index and are shown to be significant for the indicator for family welfare, sick pay and pension benefits. This is somewhat unexpected as previous work with Esping-Andersen's index show no effect and also identify the most decommodified states as the ones with the lowest unemployment rates (Huo et al. 2008).

The explanation for this discrepancy for the established indices are that the basis for the indicators, other than family welfare, uses the generosity index that includes family and couples replacement rates. So the result represents a positive effect on pension benefit's added dimension of household mean benefits. In other words, unemployment rates positively affect pension

benefits when it includes that a household have two people that qualify for higher replacement rates.

The hypothesis is not valid because of the overall positive effect on the new decommodification index, but independently the indicators for family welfare policies and pension benefits are affected positively from unemployment rates, and sick pay is affected negatively. Where the result stays consistent with established theory, is that unemployment benefits are not affected and that the negative effect of sick pay generosity indicates that states with increasing or high levels of unemployment, have a lower or decreasing levels of generosity for this program. In other word, a conservative or liberal welfare state regime with high levels of unemployment still has a positive development for pension benefits and family welfare policies. Pension program's positive development fits the welfare regime typology, but for family welfare policies this shows that the development of these kinds of policies is not monopolized by social democratic welfare regimes.

Table 15: Summary of hypotheses testing in chapter 2.4

Hypotheses	Confirmed	Additional information
Left leaning parties have a positive effect on decommodification	X	No effect on family welfare policies.
Conservative parties have a positive effect on decommodification		Christian party dominance have a negative effect on family welfare policies
The proportion of the population above 65 years of age has no effect on decommodification.	X	An effect on the indicators is present.
Women's active political participation has a positive effect on decommodification	X	Diminishing effect from dominant left leaning parties.
Economic development has no effect on decommodification	X/0	Weak positive effect on family welfare policies and unemployment benefits. Conflicting results, possible missing control variable.
Unemployment rates has a negative effect on decommodification		Positive effect on decommodification.

X= Confirmed X/0= Conflicting results

2.5.2 Conclusion on what causes decommodification

The socioeconomic and political effects on a welfare states potential to decommodify its citizens have been shown by the hypotheses testing to be clear. When including my new dimension of family welfare, left leaning political parties dominating the cabinet and active female politicians in the form of female cumulative cabinet members are the main driving forces. The percentage of union members and unemployment rates also show a positive effect on my decommodification index, the latter within a lower 10-percent level.

The biggest discrepancy to be found for the overall results is that unemployment rates have an unexpected positive effect on pension benefits and family welfare policies. Something that is not consistent for pension benefits with modern documented research using the original decommodification index, but it can be explained by conservative and liberal welfare regimes' precondition to not look at pension programs as a socialist form of welfare. For family welfare policies the effect shows that non-social democratic welfare regimes, typically with higher unemployment rates than social democratic states, also have a positive development on these policies. This proves that the growth of family welfare policies is to some degree independent of political parties and strengthens the validity of the effect from female cumulative cabinet members.

The last empirically proven effect on the new decommodification index is union density. The percentage of the population that are members of a labor union is here proven to have a positive effect on the total score for the index, but also a positive effect on unemployment benefits, sick pay and pension benefits. For family welfare policies there is no significant effect and indicates that strong unions has had an important role for the development for gender blind welfare policies, but has not been the cause of decommodification policies important for women.

Part 3

3.1 Conclusion

3.1.1 Summary of research approach

The main goal for this paper was to reexamine feminist welfare scholars' critique directed towards how the current field of welfare state research handles female decommodification. By reviewing the theoretical framework for this field, in light of both general and feminist critique, I have created the backbone to address the first part of my research question. By examining descriptive statistical works and similar themed papers I have been able to pinpoint what data was needed to identify welfare policies important for female decommodification. Furthermore it has shown that the field of female decommodification has been limited to small T and N studies and without a focus on a truly unified gender equal approach.

By researching index constructions of the established indices for decommodification I have been able to use the same method of index construction to secure comparability with my aggregate data. Further the data collection has focused on maximizing T for the same eighteen OECD countries used by Esping-Andersen (1990) in his original study, but with a main overall focus on data availability of female decommodifying welfare policies. By making this the main goal I have been able to construct a dataset from different sources that has a larger T than comparable studies with similar themes.

With the use of a multiple regression analysis I have been able to give the theoretical framework an empirical foundation to create a gender neutral decommodification index and test it for robustness and validity in comparison to the established indices. This creates a strong foundation to answer the second part of my research question on what causes decommodification.

In part two of the thesis I built up a theoretical framework on causes of decommodification by reviewing established works on causes of decommodification. The purpose of this approach was to build up general knowledge to gather and construct a data set that would be suited to explain the gender equal decommodification index. Using this framework I gathered data from established datasets to test my new index and re-examine older established causes of decommodification and test if they hold true for my new index using a multiple regression

analysis with interaction effects. Using the same eighteen countries and the same large T as in part one for the explanatory variable, it gives a solid point of departure for the conclusion drawn from the analysis.

3.1.2 The answer to the research question

To clearly answer the research question of this thesis I will here repeat it: *How can one identify and incorporate the welfare programs that are key to female decommodification, and what socioeconomic and political factors explain decommodification when this has been taken into account?*

In part one I answered what is the best way to measure decommodification when incorporating female decommodification policies by using theory and previous research showing that a paradox is present. Female levels of decommodification are dependent on the commodification of women for them to receive higher replacement rates from pension, sick pay and unemployment benefits. The welfare policies I identified as best suited, with a strong theoretical foundation built on other works in this field of research, were family welfare policies. In the analysis it showed a strong positive effect on active female labor that surpassed all other established measures of decommodification. The new indicator using job protected paternity³⁵ leave and total paid weeks paternity leave was recoded using the method from the generosity index to form a new indicator as an added female decommodification dimension to the generosity index. By using data that spanned 1971-2002 and eighteen OECD countries the result should be considered to have high reliability and comparability to the older indices.

In short, to measure female decommodification one has to address the paradox that decommodifying welfare policies commodifies women by creating job security that lowers the threshold for women to reenter the market after having children. This secures higher levels of decommodification because standard replacement rates for all benefits are dependent on either years in full employment³⁶ or the last years' income³⁷.

³⁵ Paternity leave is the definition for maternity and parental leave combined.

³⁶ Standard pension rates.

In part two the new decommodification index, with the added family welfare policy dimension, was used to answer the second part of the research question. By re-testing established causes of decommodification, with the added dimension, the socioeconomic factors and political forces gave to a degree the same results as documented research. Left leaning party cabinet dominance is still the strongest explanation for increased decommodification, but for the underlying indicators, it cannot explain family welfare policies.

Neither Christian or Catholic parties can explain decommodification, but for Christian parties it is clear they have a positive effect on sick pay and unemployment benefits. What is more interesting though is that they also have a strong overall negative effect on family welfare policies, something Catholic parties does not have. Catholic parties also have a positive effect on pension benefits. What is learned from these results is that conservative values are strongly divided between Catholics and Christians. The latter is proven to be a negative force when it comes to female decommodification and in accordance with the logic in part 1, this is the equivalent of preventing women from being employed. Catholic parties show no such empirical proven effect on female decommodification.

The increasing proportion of female cumulative cabinet members has had an empirically proven positive effect on my new measure of decommodification. The precondition of this effect is that left leaning parties do not have close to a 50-percent³⁸ dominance. Still the effect from active female politicians, despite the diminishing return when controlling for left leaning parties, have a strong positive effect especially outside Scandinavia. What is even more interesting is that in Table 14 active female politicians have a positive effect on family welfare policies and pension benefits, both which will alleviate the pressures on women's conservative responsibilities in the household and create opportunities for them to work. In other words, female politicians' effects on welfare policies are the perfect example of practicing political self-interests.

³⁷ Unemployment benefits.

³⁸ The critical value is 25, but with a mean of 13.11 for left leaning cumulative cabinet members this only removes the effect completely from Scandinavia countries. For all others, as seen in Table 13, this effect is highly significant.

The proportion of workers that are members of a union is in this thesis shown to have a positive effect on decommodification, but only for unemployment benefits, sick pay and pension benefits. What is learned from this is that unions have had an important role in developing these welfare programs in countries where they have become strong. On the other hand the results also show that they have not been the driving force for the decommodification of female labor.

3.1.3 Contribution to the field of welfare research

The main contribution to the field of welfare research is that this paper has to some degree solved a problem with the established, and often used, decommodification indices as a metric of decommodification. By identifying the need to commodify women to increase their level of decommodification, and proving it to a degree empirically, the long criticized gender blindness of these indices has been addressed. This also confirms Esping-Andersen's (2009) theory generating work and puts it into practice by adapting it for construction of a new and improved decommodification index.

Furthermore the analysis on what causes decommodification shows that family welfare policies are not a product of left leaning parties and social democratic dominance over time. It is rather caused by the proportion of active female politicians in the cabinet independent of party politics. Even though Scandinavian parties have the most generous family welfare policies the effect from political parties are not present after 1971. The civic virtue of the female populace is in this aspect almost a perfect fit for the ideal type of practicing political self-interests.

Overall the contribution to the field of comparative welfare state research will hopefully further the understanding of female decommodification. Not only as a source for feminist decommodification research, but also to better the understanding of the need for gender specific welfare policies to activate labor.

3.1.4 Suggestions for further research

In this study the new decommodification index has been limited by available data because of the focus on the aspect of time for the eighteen countries. Ideally I would also have used publicly funded child care for the same time period to see its effect on female active labor. Because of the lack of readily available data and the limited time I had to finish this thesis, the task of gathering

this data for the same thirty-two years without being able to confirm if they existed was unsurmountable. For further research, if the budget, manpower and time allowed it I would recommend adding this variable to examine and test its viability as an added indicator for my new decommodification index. I am aware of a work in progress by Lyle Scruggs and his team on gathering this data, but as of now this work is not finished.

For causes of decommodification it would be interesting to add more explanatory variables on what causes decommodification and especially family welfare policies. Female voter turnout and women's mobilization should be prime candidates for such an approach, but availability of this data is lacking in consistency for all eighteen countries and thirty-two years. The field of comparative welfare state research also has a wide span of theoretical founded causes that has not been tested empirically because of the lack of data gathered, or just that the sample size for years and countries are limited.

Expanding the new index to include non-capitalist welfare states would increase its potential to explain other causes of decommodification and the female labor situation in different regime types. As of now the results can only be generalized for highly developed democratic states and help the understanding of their welfare state development. By including more countries and dividing them into panels according to their welfare state typology or regime typology the potential knowledge generated would better our understanding of their differences.

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<http://www.oecd.org/els/family/PF2.5%20Trends%20in%20leave%20entitlements%20around%20childbirth%20since%201970%20-%202010%20oct%202012%20-%20FINAL%20-%20Annex.pdf> [01.10.2014].
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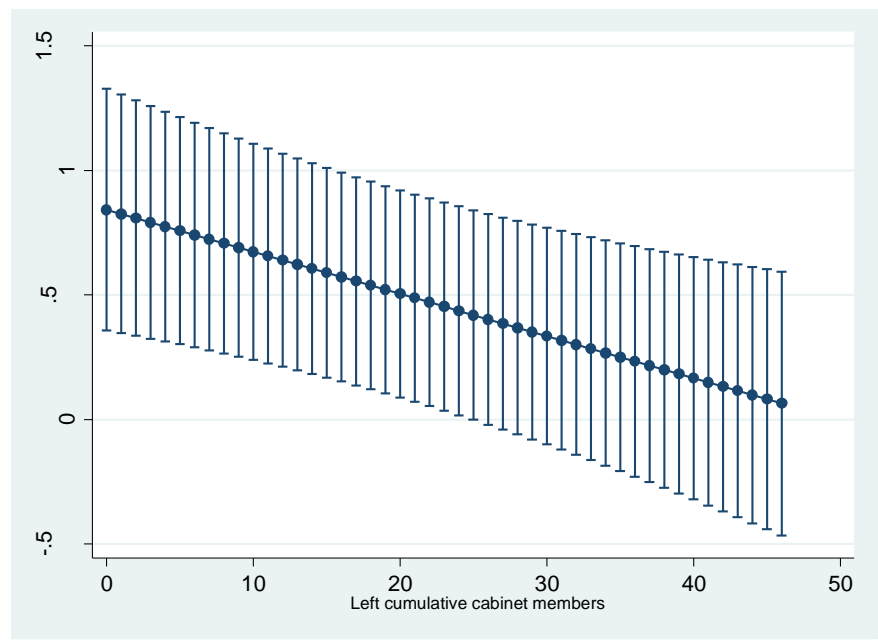
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<http://www.stata.com/manuals13/xtxtpcse.pdf> [09.03.2015]
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Appendix:

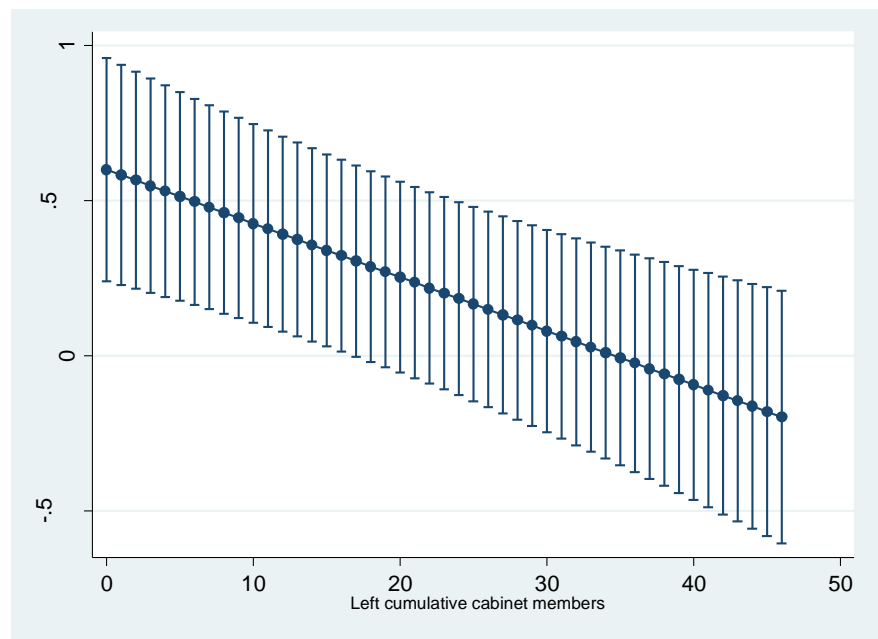
Interaction effects:

Table 12

Model 1:



Model 2:



Model 3:

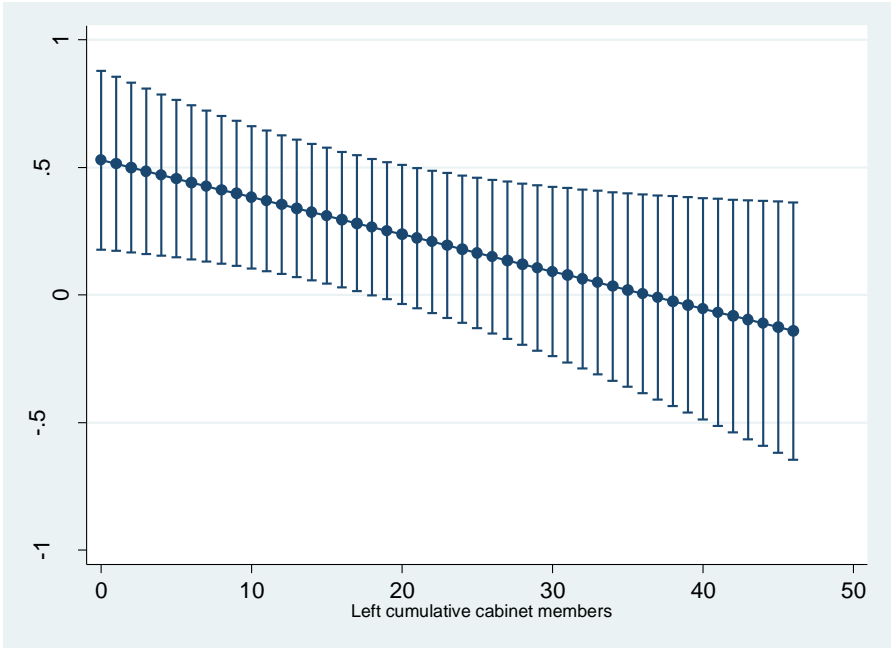
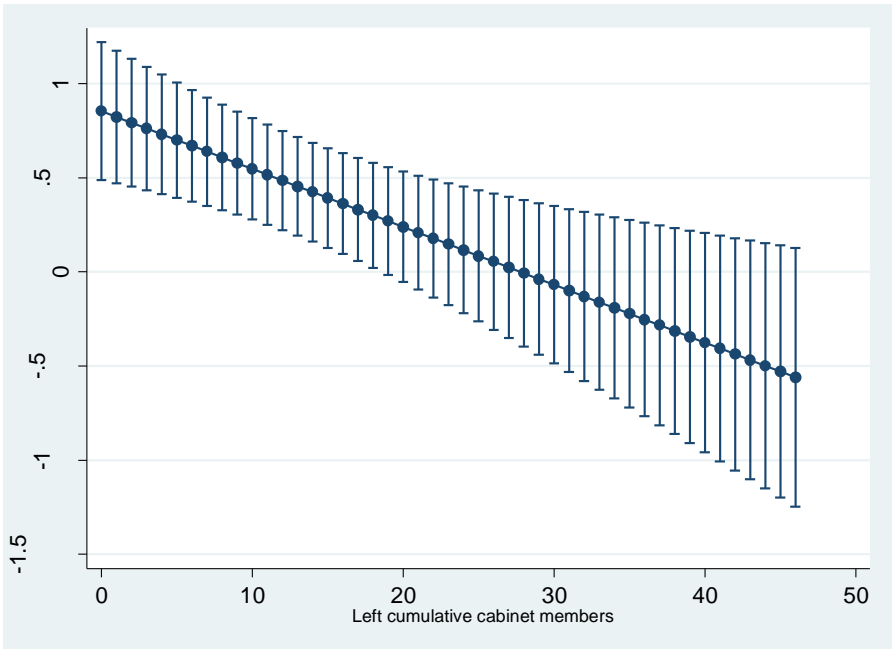


Table 13

Model 2



Model 3

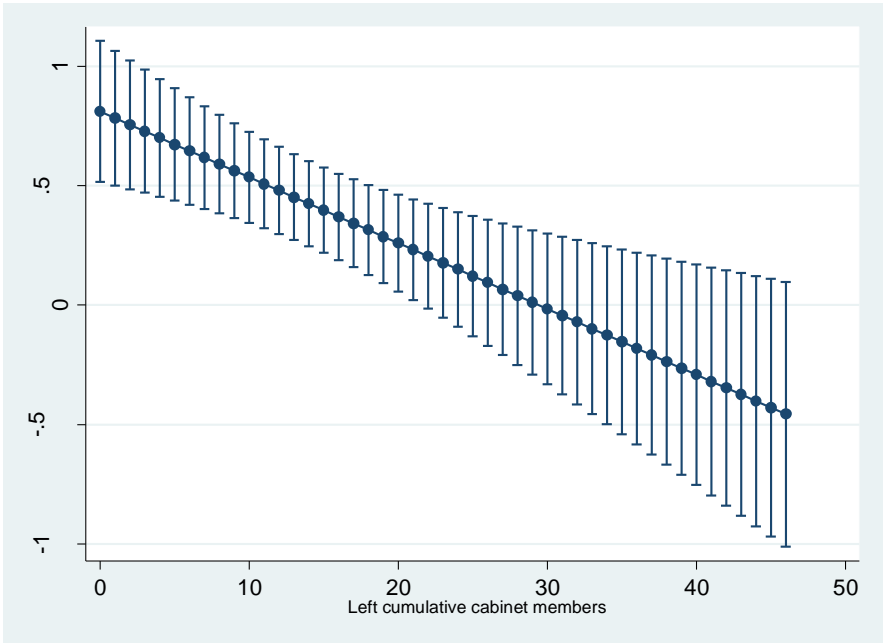
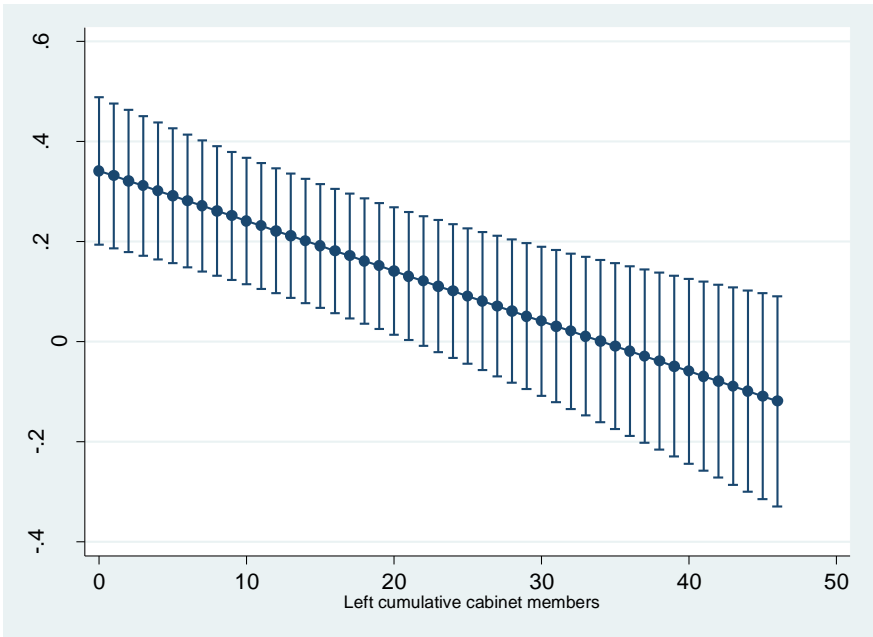


Table 14

Model 4



Codebook:

Gender neutral decommodification based on Scruggs, Lyle., Detlef Jahn and Kati Kuitto's (2006) codebook using OECDa (20014) data:

```
*/commands for Family welfare indicators
```

```
sort coid year
```

```
*ipolate x-x
```

```
for var TotLm_prot TotLm_paid1: by coid: ipolate X year, gen(Xi)
```

```
*duration scoring
```

```
egen TotLm_protiav80=mean(TotLm_proti) if TotLm_proti<156 & year==1980
```

```
egen TotLm_protisd80=sd(TotLm_proti) if TotLm_proti<156 & year==1980
```

```
gen TotLm_proticut180=TotLm_protiav-TotLm_protisd
```

```
gen TotLm_proticut280=TotLm_protiav+TotLm_protisd
```

```
gen TotLm_proti1380=1 if TotLm_proti<TotLm_proticut1
```

```
replace TotLm_proti1380=2 if TotLm_proti>=TotLm_proticut1 &  
TotLm_proti<=TotLm_proticut2
```

```
replace TotLm_proti1380=3 if TotLm_proti>TotLm_proticut2
```

```
egen TotLm_paid1iav80=mean(TotLm_paid1i) if year==1980 & TotLm_paid1i<156
```

```
egen TotLm_paid1isd80=sd(TotLm_paid1i) if year==1980 & TotLm_paid1i<156
```

```
gen TotLm_paid1icut180=TotLm_paid1iav-TotLm_paid1isd
```

```
gen TotLm_paid1icut280=TotLm_paid1iav+TotLm_paid1isd
```

```
gen TotLm_paid1i1380=1 if TotLm_paid1i<TotLm_paid1icut1
```

```
replace TotLm_paid1i1380=2 if TotLm_paid1i>=TotLm_paid1icut1 &  
TotLm_paid1i<=TotLm_paid1icut2
```

```
replace TotLm_paid1i1380=3 if TotLm_paid1i>TotLm_paid1icut2
```

```
for var TotLm_proti TotLm_paid1i: replace X1380=1 if X==0
```

```
sort country year
```

```
/*__THIS SECTION COPIES the means and sds for 1980 to the other years and creates  
scores____*/
```

```
for var TotLm_protiav80-TotLm_paid1icut280: replace X=X[_n-1] if year~=1980
```

```
for var TotLm_protiav80-TotLm_paid1icut280: replace X=X[_n-1] if X==.
```

```
for var TotLm_protiav80-TotLm_paid1icut280: replace X=X[_n+1] if X==.
```

```
/*_____following repeats are necessary to code Australia_____*/
```

```
gsort -country year
```

```
for var TotLm_protiav80-TotLm_paid1icut280: replace X=X[_n-1] if X==.
```

```
sort country year
```

```
***Generosity scores computed on a standard deviation basis and a 1980 benchmark
```

```
for var TotLm_proti TotLm_paid1i: gen Xsdbasis=(X-Xav80)/Xsd80
```

```
***next line reverses the sd scores for characteristics in which high value is bad, does not effect  
positive values.
```

```
for var TotLm_protisdbasis TotLm_paid1isdbasis: gen X2=2 if X>=2 & X<1000
```

```
for var TotLm_protisdbasis TotLm_paid1isdbasis: replace X2=-2 if X<=-2 & X>=-1000
```

```
for var TotLm_protisdbasis TotLm_paid1isdbasis: replace X2=X if X2==.
```

```
for var TotLm_protisdbasis TotLm_paid1isdbasis: replace X2=X2+2
```

```
*formula for combining indicators to create the new decommodification score
```

```
gen familywelfare= (TotLm_protisdbasis2*2 + TotLm_paid1isdbasis2*2)
```

```
gen newdecom=(familywelfare+unemployment+sickpay+pension)
```